ORIGIN EVOLUTION AND REFORM OF THE TAMIL SCRIPT

SEMINAR PAPERS

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(In Commemoration of the Silver Jubilee of the Institute of Traditional Cultures)

Published by

The Institute of Traditional Cultures, University Buildings, Madras-600 005.

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INSTITUTE OF TRADITIONAL CULTURES

Madras-5

SILVER JUBILEE YEAR: 1982-1983

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FOREWORD

I am happy to note that the Institute of Traditional Cultures, which has been functioning in collaboration with the University Departments since 1957, is bringing out a publication which is in the nature of a collection of Seminar papers on 'the Origin, Evolution and Reform of the Tamil Script' and discussions thereon held in February 1983 in the Centenary Buildings of the University. Scholars who had made a deep study of the problem of Tamil Script such as Iravatham Mahadevan, K. G. Krishnan, Kodumudi Shanmugam, R. Krishnamurthy, Dr. K. V. Raman, Dr. P. Shanmugam, Dr. N. Kasinathan, Dr. Gift Siromoney, and S. Ramaratnasabapathy have discussed in their papers the problem of Tamil Script from various angles. This publication is issued by the Institute in commemoration of its Silver Jubilee. I am confident that this publication will stimulate further studies in this direction and contribute to arriving at definite conclusions in regard to the Origin, Evolution and Reform of the Tamil Script.

M. SANTAPPA,

Vice Chancellor, University of Madras

and

President, Institute of Traditional Cultures.

Madras-5.

16-12-1983.

About the participants in the Seminar on 'The Tamil Scripts'

1. Thiru Iravatham Mahadevan, I.A.S. (Retd.), Indologist, Madras-35.

2. Thiru K. G. Krishnan, Retired Chief Epigraphist, Mysore.

3. Dr. Gift Siromoney, Professor & Head, Department of Statistics, Madras Christian College, Tambaram-600 059.

4. Dr. K. V. Raman, M.A.,Ph.D., Professor & Head, Department of Archaeology and Ancient History, University of Madras.

5. Dr. P. Shanmugam, M.A.,Ph.D., Lecturer, Department of Archaeology & Ancient History, University of Madras.

6. Thiru Natana Kasinathan, M.A., Deputy Director of Archaeology, Office of the Director of Archaeology, Madras-28.

7. Thiru R. Krishnamurthy, M.A., Editor, 'Dinamalar', Madras-600 002.

8. Thiru Kodumudi S. Shanmugam, M.E.,D.S.S.,M.I.E., Executive Engineer, Madras-600 020.

9. Thiru S. Ramaratnasabapathy, B.E.,E.S.Exam. (Electronics), Ex-Dy. Engineer, OCS, Government of India.

REPORT OF SEMINAR

The Institute of Traditional Cultures as a part of its Silver Jubilee Series held a Seminar on 'THE ORIGIN, EVOLUTION AND REFORM OF THE TAMIL SCRIPT' at 10 A M. on Friday, the 25th February 1983 at the University Centenary Building. Dr. M. Santhappa, Vice Chancellor, University of Madras inaugurated the Seminar. Thiru Iravatham Mahadevan, I.A S. (Retd.) led the seminar and conducted the proceedings. The following is a Report of the proceedings of the Seminar.

WELCOME ADDRESS

Prof. P. THIRUGNANASAMBANDHAN

Director, Institute of Traditional Cultures

The Director in his welcome speech traced the development of the Institute of Traditional Cultures since 1957 when it was started with the help of the Unesco and the Government of India and which now celebrates its Silver Jubilee. He said how it has been functioning as a clearing house of knowledge and information on traditional cultures of the South and South East Asian regions for the past twenty five years. He further said that the Institute has been receiving financial aid from the Government of India and the Government of Tamil Nadu in later years and how the University has been helping all along by way of providing accommodation to the Institute, making available the co-operation of the University departments

and meeting the cost of publication of the Half yearly Bulletin issued since its inception.

He welcomed the Vice Chancellor, Dr. M. Santhappa who inaugurated the Seminar, Thiru Iravatham Mahadevan who led the Seminar and conducted the proceedings and the distinguished scholars and invitees who participated in the Seminar in various capacities as moderators etc. He also touched upon the possible link between the script of the Harappan seals and the Tamil Brāhmī script and the further evolution of Indian scripts from Brāhmī and the need for reform in the Tamil script to meet the modern needs of the printing press and typewriter and particularly of the children who are to learn the language with ease.

INAUGURAL ADDRESS

Dr. M. SANTHAPPA

Vice Chancellor, University of Madras

I am happy to associate myself with the Seminar organised by the Institute of Traditional Cultures as a part of the Series of Seminars in this Silver Jubilee year which the Institute is celebrating. The theme chosen for the Seminar is of immense importance, namely, the Origin, evolution and reform of the Tamil Script. The script of a language is largely determined by various factors and its evolution has a bearing on the interaction of such factors. One has to take note of the geographical and topographical features of the regions where the writings are available, the materials used for engraving or writing the records, the chronological factor, political, religious and social influences of the age and so on. Systematic study of the scripts has been made by scholars in the East and the West and such a study has given rise to the science of writing or scripts known to antiquarians as *Palaeography*. Palaeography is a very important branch of knowledge without which ancient

Indian records cannot be satisfactorily made to yield correct facts. We have a rich collection of writings on rocks, metals, palm leaves etc. which have been utilised by scholars in the reconstruction of history. A study of the numerous stone and copper plate records found in different regions reveal how the scripts in the various regions differ not only due to difference in the natural materials but also to the whims and tastes of the scribe and the sculptor and to the political, religious and social factors of the period. Pioneers who have made a deep study of the scripts used in the Epigraphical records include celebrated names such as Buhler, Hultzsch, Fleet, Bhandarkar, etc. to mention a few. They have evolved a science of palaeography to test the factual import of the inscriptional material under study. This has enabled historians to write a fairly accurate history of the country stretching over a period of 2,500 years from the days of the Mauryas to the modern days. The archaeologists and epigraphists of to-day have a great responsibility in unravelling the truth contained in the tens of thousands of records in a truly scientific manner so that our country can erase the criticism levelled against the Indian chroniclers that they have no historical sense to the extent their counterparts in the West as the Greeks and Romans had from the earliest times.

The Indus Valley seals, though yet undeciphered conclusively, reveal the high standard of social and religious life of an urban kind. The long interval of C. 3000 B C. to 500 B.C. when we had the first written record is a mystery which perhaps remains to be solved by fresh finds in future. A group of Soviet and Finnish scholars had expressed their opinion that the language spoken in the Indus cities was a form of Proto-Dravidians. It is just a possibility in view of the existence of the Brahui language in the north-west. There also appears to be a thinking that more than one language were in use then. There are yet others who find in the Harappa seals a language akin to the Vedic Aryan. These need a careful study by scholars in the field in a truly scientific manner.

It is but appropriate that Thiru Iravatham Mahadevan should lead the Seminar on the Origin, Evolution and Reform of the Tamil script as he has devoted considerable time and effort in the field of study of the Tamil Brahmi inscriptions. It is significant that he took up this study more than twenty years ago at the instance of Prof. K. A. Nilakantha Sastri, the first Director of the Institute which is conducting the Seminar to-day. His study *in situ* of the inscriptions lends added interest to his findings. He presented a paper in 1968 on the occasion of the Second International Conference Seminar of Tamil Studies held at Madras on 'the Tamil Brahmi inscriptions of the Sangam Age'. His basic finding then was that the orthographical system of the Tamil Brahmi script differs materially from that of the Brahmi script and is in fact a deliberate modification to suit the needs of the Tamil phonetic system.' He was able to give a chronological classification of the Tamil Brahmi inscriptions from the Pre-Tamil Brahmi period (3 cent. B.C.) to Early Vaṭṭeḷuttu Tamil period (7-8 cent. A.D.) relating to the Chera and Pandya country in the Madurai, Tirunelveli and adjoining regions. We now look forward to further progress registered by Thiru Iravatham Mahadevan and other scholars working in this interesting field of study. Scholars who are participating in the Seminar have laboured long in the study of epigraphic material and evolution of scripts. The Institute of Traditional Cultures is interested not only in dissemination of knowledge about the various phases of culture and interaction of cultural forces in the past in India and South East Asia but also in examining the extent to which the past can help in solving the problems of the present.

After the introduction of the printing press the scope for change in the form of script is less than what it was when individual scribes had their own way of writing on palm leaves which gave scope for variations in the script. With the advent of the printing press it is the printed word that has come to dominate communication of knowledge on a mass scale. Anything that could lessen the burden of the reading public in

learning the alphabets of a language and make the printing process less arduous has to be seriously considered. I am happy to find that a statistician, archaeologists, writers and journalist well acquainted with palaeography are participating in the Seminar on the Origin, Evolution and reform of Tamil Script. Reform of script has been engaging the attention of scholars and administrators in recent years. In fact a few changes have already been effected by way of simplifying the forms of alphabets in Tamil. We look forward to a fruitful discussion of this aspect of script as well. I am glad to inaugurate the Seminar.

Map of Tamil Nadu showing sites of Tamil Brāhmī Inscriptions

ORIGIN OF THE TAMIL SCRIPT

IRAVATHAM MAHADEVAN

In our search for the origin of Tamil script we should make a clear distinction between the language and the script. The Tamil language is of hoary antiquity, and the chronology of its evolution from the Proto-Dravidian through the Proto-South-Dravidian spans several millennia. The Tamil script is relatively a much more recent invention. This is of course true of all languages which are far older than the scripts devised for recording them. It is therefore misleading to refer even to the earliest stage of writing as the 'formative' period of any language.

It is quite legitimate to use both literary and epigraphical sources to determine the Origin and the Evolution of the Tamil Script. But while doing so, we should again make a clear distinction between the evidentiary value of these two sources. Epigraphical material (inscriptions on stone, metal or pottery, coins, seals etc.,) provide direct and contemporary confirmation of the existence of writing and of the people and the events referred to in them. The chronology of the inscriptions can be determined from a comparative study of the palaeographical features of the script and by making use of the linguistic and historical data culled from the inscriptions. Greater care is required when using literary sources as evidence because of the possibility of interpolation or later modifications. The dating of the early grammatical and didactic works like the *Tolkāppiyam* and the *Tirukkuraḷ* which contain no historical data has posed serious problems. Even historical works like the *Patiṟṟuppattu* or the *Puṟanāṉūṟu* do not help us much in finding out the absolute chronology of the history narrated in them. The linguistic and stylistic features of the early Tamil works have been analysed to determine their relative chronology, but absolute dates cannot of course be arrived at by this method.

The difficulty in establishing a reliable chronology is further compounded by the uncritical acceptance by a section of the Tamil scholars of myths like the three successive Tamil Sangams of incredibly long durations or of a large continental land mass with a flourishing Tamil Civilization ('Lemuria') lost under the sea. It is not the case that epigraphical evidence poses no problems. It is well known that palaeography is a blunt tool of research and cannot precisely indicate dates within a century or so. The inscriptions on stone, metal or pottery cannot be dated by the Carbon-14 method. The Tamil-Brāhmī cave inscriptions and the pottery graffiti are too brief to provide historical data dating them. It is true that the names of Neṭuñceḻiyaṉ in the Mangulam inscription, the Irumpoṟais in the Pugalur inscriptions and Atiyaṉ Neṭumāṉ Añci in the Jambai inscription prove conclusively the contemporaneity of the Tamil Sangam Age and the Tamil-Brāhmī inscriptions; but this fact still does not help us to fix the absolute dates of these kings or of the poems referring to them.

The first step in tackling the problem of the chronology of early Tamil palaeography is to realise that it is not possible to arrive at absolute dates merely on the basis of the internal evidence from the early Tamil works or even from the early epigraphical material. In my view the best way to build chronology of early Tamil palaeography is to pursue the following three lines of enquiry:

(1) Finding datable links with the external world referred to in the early Tamil works;

(2) Using archaeological techniques to date the inscribed pottery; and

(3) Making a comparative palaeographical study of the Tamil-Brāhmī script and the neighbouring scripts of the Northern Brāhmī and the Brāhmī of Sri Lanka.

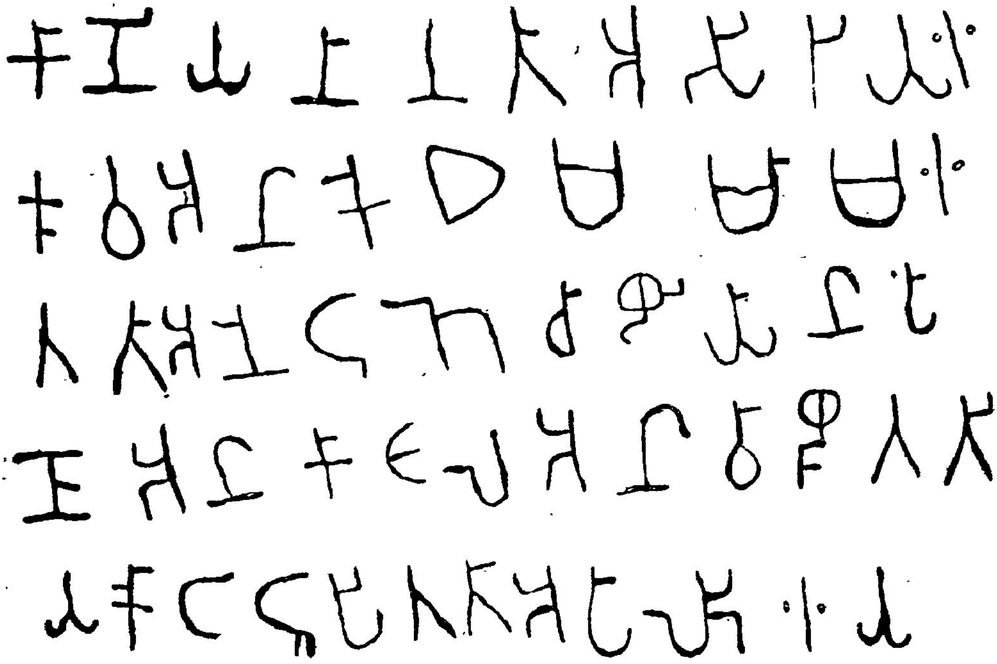
There are only a few datable links with the outside world in the early Tamil literature; but these are wellknown and have attracted the attention of scholars for a long time. These are:-

(1) **Familiarity with Jaina and Buddhist creeds;**

(2) **References to the Nandas, the Mauryas (*Mōri* the Satavāhanas (*Nūṟṟuvar Kaṉṉar*);**

(3) Reference to King Gajabāhu of Sri Lanka as the contemporary of Ceraṉ Ceṅkuṭṭuvaṉ;

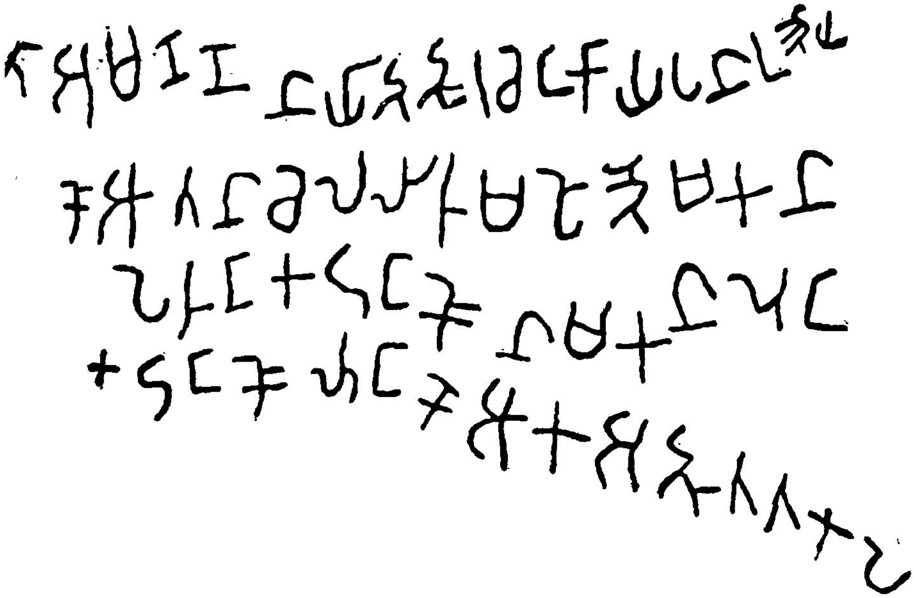
(4) Graphic descriptions of the maritime trade with the Romans (*Yavaṉar*).



Pl. I—Māṅkuḷam Inscription (Māṅ. 1) of Neṭuñceḻiyaṉ Vaḻutiy
(c. 100 B.C.)

Taking the totality of the literary evidence summed up above, it is reasonable to fix broadly the time brackets for the early Tamil works as not earlier than the Third Century B.C. (when Jainism and Buddhism first reached the Tamil land) and not later than the second or the Third Century A. D. (when the Roman trade with the Tamil kingdoms virtually ceased). A point for consideration is that since literacy should have preceded such literary efflorescence as was witnessed during the Sangam Age, we should look for the origin of the Tamil Script in a still earlier age. This is a very valid point;

however once we leave the literary evidence behind, we have only the archaeological data to go by, which have to be interpreted in accordance with the methodology of the respective disciplines.



Pl. II—Pukaḷūr Inscription (Pukaḷ 1) of Kō Ātaṉ Cel-l-irum Poṟai (C. 200 A.D.)

The importance of the archaeological data pertaining to the inscribed pottery found from stratified layers of controlled excavations in Tamilnadu cannot be over-estimated. We have two sets of very interesting data, - one from the megalithic burial sites, and the other from the early historical settlements. Excavations of megalithic sites at Adichanallur, Kunnathur, Sanur, Sengamedu, Thozhuppedu, Vellalur etc., have brought up pottery from the earlier megalithic levels inscribed with graffitic marks which may be meaningful but do not appear to be a system of writing, nor connected with Tamil-Brāhmī script of the succeeding Age. The negative evidence for the absence of writing in the early megalithic levels, not to speak of the still earlier neolithic period is important. A potsherd inscribed in the Tamil-Brāhmī script was found in a late megalithic context just below the early historical levels at Arikamedu. Casal, the excavator, has dated this sherd in

C. 2nd Century B. C. It has also been reported recently by the Tamil Nadu State Department of Archaeology that some potsherds inscribed in the Tamil Brāhmī script have been found in a megalithic burial site of about 2nd Century B. C. at Kovalanpottal near Madurai. Another recent find is a seal from a megalithic complex found at Anaikoddai near Jaffna. The seal is inscribed in Brāhmī or Tamil-Brāhmī Script and also carries symbols resembling the graffiti on megalithic pottery. The seal still awaits detailed study, but it perhaps belongs to the late Megalithic-Early Historical periods (C. 2nd Century B. C. - 2nd Century A. D.) when there is overlapping of the megalithic graffitic symbols and the Tamil-Brāhmī scripts as at the lower levels of Arikamedu.

Pottery inscribed in the Tamil-Brāhmī script, which represent the earliest datable specimens of Tamil writing, have been found in good numbers in the recent excavations of early historical sites in Tamilnadu including Arikamedu, Alagarai, Uraiyur, Kanchipuram, Karur, Keverippoompattinam, Tirukampuliyur, etc. At Arikamedu Tamil-Brahmī graffiti are found along with Kushana-Brahmī, Sri Lanka-Brāhmī, Southern Brāhmī and of course Roman pottery stamped with letters of the Roman script. The Arikamedu graffiti are still the sheet-anchor of the chronology of early Tamil Palaeography. They belong to C. 2nd Century B.C. - 2nd Century A.D. These dates have been amply confirmed by the more recent excavations of the early historical sites mentioned above. I may also mention here the exciting discovery of two potsherds inscribed in Tamil in the Tamil-Brāhmī Script from a Roman trading station at Quesir-al-qadim on the Red sea coast of Egypt. The sherds give the names of Cātan̲ and Kan̲an̲ which are typical Tamil personal names of the sangam age. The sherds have been dated to the same periods as the Arikamedu pottery. It is also seen from a comparison of the paleographical features of the script of the pottery graffiti and the cave inscriptions that both belong to the same period. The silver 'portrait' coins of the Andhra Satavahana rulers carry bilingual legends, a

Prakrit legend in the Northern Brāhmī Script on the obverse, and the corresponding Tamil legend in Tamil-Brāhmī Script on the reverse. These kings ruled in the 2nd Century A.D. which again gives us a firm datum line to compare the palaeography of Northern Brāhmī and Tamil-Brāhmī. Thus there is a satisfactory linkup between literary, archaeological, historical and epigraphical data-all pointing out to C. 3/2 Century BC to C. 2/3 Century A.D as the earliest stage of Tamil writing.

A careful study of the inscribed pottery excavated from the Megalithic and the early Historical sites in Tamilnadu leads to another important deduction. There is no evidence at all for the existence of any indigenous or independent script for Tamil, either earlier to, or contemporaneous with the Tamil-Brāhmī Script. Whatever writing has been discovered on inscribed pottery from the excavated sites in Tamilnadu, is invariably in the Tamil-Brāhmī script, and always found in the late Megalithic - Early Historical levels datable to about 3/2 Century B.C. - 2/3 Century A.D. The earliest Vaṭṭeḻuttu and Tamil scripts do not occur before the 5th or 6th Century A.D. and cannot therefore claim to represent the origin of Tamil writing.

The origin of the Tamil-Brāhmī Script can also be broadly dated by a comparative palaeographical study with its nearest neighbours. In the north we have Mauryan Brahmī Script used all over the sub-continent and upto the borders of the ancient Tamil country. In the South, we have the Sri Lanka cave inscriptions, palaeographically identical with the Brāhmī script bnt written in a distinctive local dialect. Comparative Palaeographical studies of the three scripts have shown that the Tamil-Brahmī script and the Sri Lanka Brahmī script are but regional and linguistic variants of the Mauryan Brāhmī script. In brief the evidence regarding the origin of the Tamil-Brāhmī script from the Brahmī script may be summarised as follows:

(1) Brahmī and Tamil-Brāhmī have identical letters for common sounds.

(ii) Tamil-Brāhmī excludes only those Brāhmī letters which represent sounds not included in the Tamil phonemic inventory (voiced consonants, aspirates and sibilants). But the presence of Brahmī letters like *dha* and *sa* in Prakrit loan words in the cave inscriptions indicate the contemporaneity of the two systems.

(iii) The four characteristic Tamil-Brāhmī letters (ழ, ள, ற, ன) can be shown to be derived from the corresponding Brāhmī letters having the nearest phonetic values.

(iv) It is significant that the basic shapes of e and o in Tamil-Brahmī stand for the respective long vowels (ē, ō). The *puḷḷi* was added as a diacritic to indicate the shorter vowels in both cases. This is clearly an abnormal situation when compared with the practice in respect of all other vowels of deriving the longer vowel marks from the shorter vowel marks. This contrasting situation can be explained only on the basis that Tamil-Brāhmī borrowed ē and ō as long vowels from Brahmī which did not have the corresponding shorter vowels.

(v) It is a small but significant detail that in the Tamil alphabet, the letters ழ, ள, ற and ன are not found in the positions required by the phonological sequence, but are placed in a block at the end, indicating their later addition to the alphabetic sequence originally based on Brahmī. (Compare the later development in the Tamil script when the additional letters ஜ, ஷ, ஸ and ஹ borrowed from the Grantha are placed at the very end in the modern Tamil primers.).

The earliest occurrence of the Mauryan Brahmī script is in the edicts of Asoka firmly dated in the middle of the 3rd Century B.C. The earliest cave inscriptions of Sri Lanka are assigned to the third quarter of the 3rd Century B.C. on the basis of the evidence of royal names occurring in the inscriptions and their Buddhistic context. Tradition is firm that Buddhism was taken to Sri Lanka by the children of Asoka. The

Tamil-Brāhmī script which is an adaptation of the Mauryan Brāhmī script to suit the needs of the Tamil phonetic system must be a post-Asokan or late Mauryan development which can be dated from the end of the 3rd Century B C. or the beginning of the 2nd Century B.C. All converging lines of evidence discussed above indicate that this is how and when the Tamil language acquired its script.

IN THE DISCUSSION THAT ENSUED ON THE ORIGIN OF TAMIL SCRIPT

Kodumudi Sa. SHANMUGAM observed—

The reasons stated to prove that the Tamil Brāhmī follows the Northern-Brāhmī need some consideration.

1. The arrangement of Tamil Script is similar to that of Devanagari and the special characters of ழ, ள, ற, ன are placed at the end.

This arrangement is very late, may be after fifteenth century. Tholkappiyam, Nannool and other grammar works place uyir first vallinam second, mellinam third and iḍayinam fourth. A to N arrangement is reasonable by considering uyir, vallinam, iḍaiyinam and mellinam.

Hence, comparing the arrangement of letters, need not be a supporting evidence, for the theory proposed by the speaker.

There is no scientific dating for the Tamil Brāhmī Script other than that on the palaeographical grounds. More excavations and inscription on pot-sherds with carbon dating for the site alone can give proper dating to the script.

Northern Brāhmī is also not indigenous. The probable source may be the Semitic script around Mediterranean sea.

Most probably, the adoption might have taken place simultaneously as Asokan Brāhmī for Pali and Southern variety for TAMIL. The Tamil forefathers coined new forms for the special characters from those having nearby equal sound value. Anyhow, it is to be admitted that there is some influence of Northern Brāhmī over the Tamil letters. No conclusion is possible in the absence of pre-Tholkappiyam grammar works.

ORIGIN OF THE TAMIL SCRIPT

K. G. KRISHNAN

The earliest inscriptions in Tamil language are found in the caves and caverns in the southern districts of Madurai, Ramanathapuram and Tirunelveli.[1] The script in which these records are engraved is called Brāhmī conventionally as most of the forms are also found in the earliest inscriptions found in the districts of Chitradurga in Karnataka and Kurnool in Andhra Pradesh and also further north and engraved during Aśoka's rule. The forms of the graphemes ḷ (ள), ḻ (ழ), ṟ (ற), ṉ (ன) and also m (ம) are held by scholars to have been adapted for writing the texts in Tamil. This opinion is based on two assumptions: 1) that the script from the north was absorbed and (2) that the special graphemes were formed by devising suitable diacritical marks.[2] The commonness of the other forms has led to this gratuitous assumption. The fact that the additional forms of the 15 aspirated letters and 4 letters (*s*, *ś*, *sh* and *h*) in the case of northern alphabets have also been devised similarly without mostly any relationship to the basic common forms is being ignored persistently by those scholars.[3] Thus the common forms exhibit only a mechanical similarity resulting from 'a cursory glance'. A more logical approach will be to consider the two systems in the light of the alphabets as formulated by the respective grammatical traditions. We will be presently concerned more with the Tamil grammatical tradition.

Before proceeding further we would like to delineate the cultural context against which this problem has to be approached. Aśoka refers to the three (Tamil) kingdoms Choḷa, Pāṇḍya and Keraḷa (Chēra) in the context of his appeal to spread his message of *dharma*. He had considered them as civilised enough to propagate his message through any medium including a script, a basic tool for any such civilisation. It is

impossible to argue that they borrowed the script and adapted it to their own alphabetic system. In fact the situation in South India at the first appearance of written records reflects a different one. The casket inscriptions from Bhaṭṭiprolu present a feature in the script used there. While the outline of the core forms is the same as found in the edicts of Aśoka there is a vital difference in the manner of writing the stop and the full consonants with vowels. The form of *ka* is written by drawing a short line added at the top of the cross-like form to its right. Another line extended downward to this makes the letter *kā*. Nobody has sought to explain why this difference is noticed in a record which is generally held to be post-Aśokan. With a well-formulated script in the Aśokan edicts at Yerragudi and Rājula-Mandgiri not far away from Bhaṭṭiprolu in Guntur District it is difficult to explain why *ka* and *kā* were written differently. The situation was no better in Tamil Nadu. The inscriptions from Māṅguḷam (Minakshipuram) and a few other places write alongside following the Bhaṭṭiprolu fashion without the additional downward stroke for full consonants with long vowels. Instead the vowel *a* only is written alongside separately to indicate the length. The other vowel marks for the full consonants are indicated by suitable marks on the top or side or bottom of the main consonantal forms as in the case of *k*, *ki*, *ku*, *kē*, etc. The *aṉ* ending in the names of persons is written separately but not uniformly as in the cases of paṇa aṉ, kaṭal aṉ, neṭuñcaḻiyaṉ, etc. The features pointed out above represent clearly attempts to experiment by designing to formulate a script for a settled alphabet but finalised only in the later stages as reflected in most other cave inscriptions. It is worthwhile to consider whether this experimentation both in Bhaṭṭiprolu and the cave inscriptions could have happened in the post-Aśokan period when a highly sophisticated and finalised system of writing had already travelled down south.

Another feature observed in the case of cave inscriptions is the use of *dha*, *sa*, *śa* in some of the records and the avoidance of the same in respect of all other epigraphs. This

shows that there was a deliberate attempt not to absorb the forms of all the aspirated and voiced phonemes gradually. This is in contrast to the situation obtained (long after the period of cave inscriptions in Tamil Nadu) in Karnataka and Andhra Pradesh where we find that the northern script along with the alphabet was retained in Kannaḍa and Telugu inscriptions of the fifth and sixth centuries A.D. respectively. Sanskrit and Prākrit words were adopted in Tamil after substituting the aspirated and voiced phonemes by using the Tamil phonemes nearest in value to them. This is referred to in a *sūtra* (*nūṛpā*) in *Tolkāppiyam*. This happened epigraphically after the Māṅguḷam (Mīnākshipuram) inscriptions referred to above. Thus it is found that the two processes, one of continuing the Bhaṭṭiprolu experiment and the other of avoiding the northern letter-forms (aspirated and voiced) occurred simultaneously.[4]

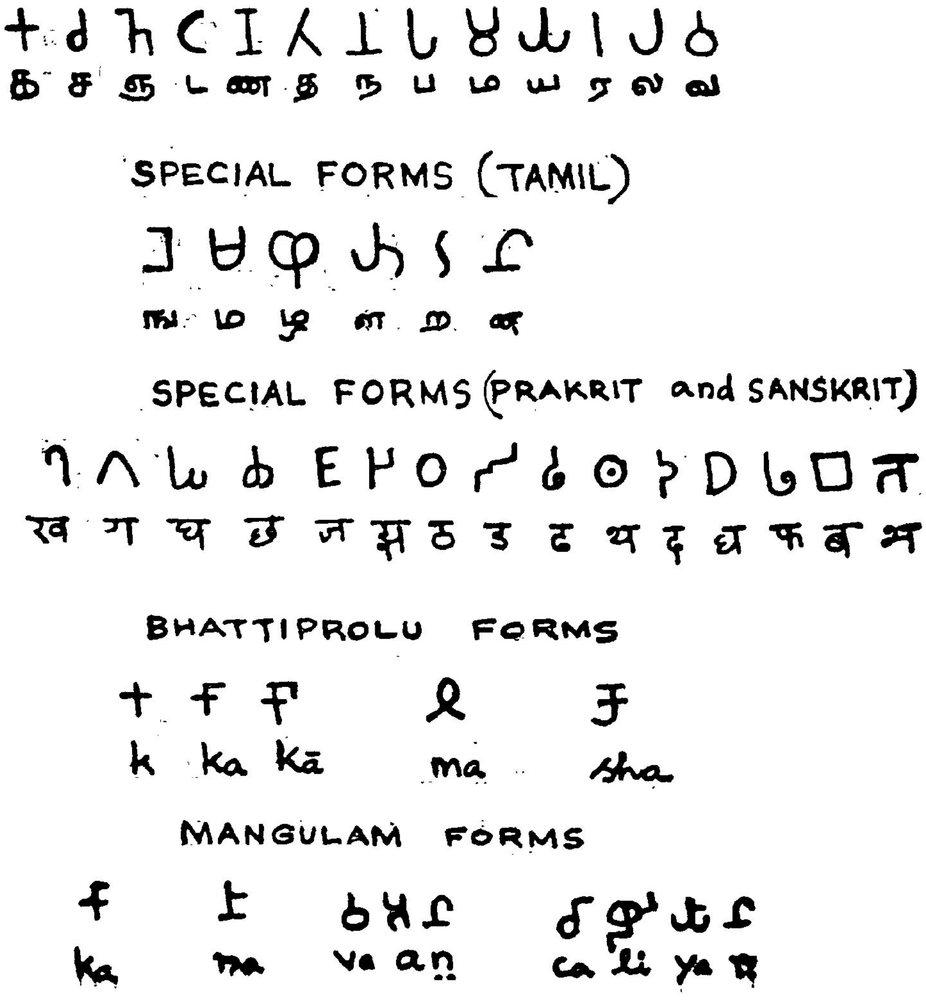
This experiment could not have happened, as we observed above *after* the appearance of the Aśokan edicts. The common forms between the edicts and the cave inscriptions should be considered to be basic for the whole of India, with the additions being made according to the requirements of the alphabets of the languages concerned. One should not fail to note that the standard basic common forms *ka*, *ṅa*, *ca*, *ña*, *ṭa*, *ṇa*, *ta*, *na*, *pa*, *ma*, *ya*, *ra*, *la* and *va* follow the pattern of the Tamil alphabet. The very fact that the Tamils did *not* follow the practice of writing conjunct consonants (*saṁyuktāksharas*) by putting one below the other, proves that either they had already designed their script out of the basic forms earlier or that they preferred to continue experimenting for reasons not known to us. The latter is highly improbable on account of cultural context in which they were placed during Aśoka's times. The Jaina association of these caves also points to the pre-Aśokan, if not, pre-Buddhist incursion in the south, when considered along with the other factors set out above.

The authors of This Tamil script must have faced the problem of distinguishing between the stop and the full consonants. They devised the dot to stand for the reduction of the value (*mātrā*) from the full to the stop consonant. The use of

a dot for short *e* should be seen in the light of this principle and *not* as an adaptation from Aśokan edicts.[5] Mahadevan is correct when he says 'whether a consonantal symbol is to be treated as basic or as having an inherent *a* can be decided only by invoking a knowledge of the language'. This is applicable to all the Tamil inscriptions throughout except very few like Kuram Plates of Parameśvaravarman, Cheda'ai pillar inscriptions of the Muttaraiyar, etc. But this cannot prove that the practice of marking dots was not there from the time of the appearance of the first record in Tamil Nadu as it is basic to the Tamil script.

With a totally different system of writing the common forms and the extended ones the name Brahmi cannot continue.[6] We hold that the Tamil script began to take shape in a period prior to Aśoka's times.

COMMON FORMS



REFERENCES

1. Mahadevan in 'Corpus of the Tamil-Brāhmi Inscriptions' published in *Seminar on Inscriptions*, Ed. R. Nagaswamy, 1968, pp. 57–73. The eye-copy reproductions of most of the inscriptions as deciphered by him form the basis for the considerations set out in this paper.

2. R. Nagaswamy in the section on 'comments' published in *The Origin of Brāhmi script*, Ed. S. P. Gupta and K. S. Ramachandran, 1979, pp. 72–82.

3. K. G. Krishnan in 'Brāhmi Script in Tamil Nadu' published in *Studies in Indian Epigraphy* (Journal of the Epigraphical Society of India), Vol. I, 1974, pp. 26–30.

4. K. G. Krishnan, Presidential address, Eighth Annual Congress of Epigraphical Society of India, Bhopal in February 1982—Published in the Journal of the Society released at Gorakhpur in March 1983. The remarks made in this address have been a little more improved here taking an overall view. See however the reference under note above for the very basic exposition covering also the vowels.

5. Contra. Nagaswamy. loc. cit. Tolkāppiyar's *sūtras* have not been understood correctly. As pointed out by us in reference under note 3 above the *sūtra* No. 401 has been completely misunderstood by all the commentators. So also the commentary by Nachchinārkiniyar on *sūtra* No. 14 (Krishnan, loc. cit. under note 3).

6. The name Brāhmi is derived from Brahmā suggesting an unknown origin. It is hoped that the origin of the basic common forms also will be traced soon.

ORIGIN OF THE TAMIL-BRAHMI SCRIPT

GIFT SIROMONEY

The modern Tamil script is the result of a process of evolution[1] beginning with the earliest form of script called the Tamil-Brāhmi script[2] (This script is referred to as Damili by Nagaswamy and as Tamil by Krishnan). We shall refer to it as TALBI for short. The stages of evolution, though generally understood by epigraphists, are not known to the educated layman in Tamil Nadu. Some of us are making special efforts to make this knowledge more easily available.[3] In this paper we shall raise some questions of general interest regarding TALBI.

What is the relationship between the Tamil-Brāhmi script (TALBI) and the Asokan Brāhmi (ASHBI) script? What are the possible origins from which the shapes of the different letters developed? Was there an earlier Tamil script which was replaced by the Tamil-Brāhmi script for committing Tamil to writing?

Mayilai Seeni Venkatasamy[4] has expressed the view that Tamil must have had a script of its own prior to the introduction of the Tamil Brahmi script. However excavations have so far not revealed any other script belonging to the prehistoric period of 1500 - 500 BC. The Harappan civilization belongs to the period of 2500 - 1500 BC. and the gap of 1000 years has not been satisfactorily bridged. Except for some graffiti markings on burial urns we do not have any material evidence at the moment to support the theory that there was writing in the Tamil language prior to 500 BC. The same argument holds good for Sanskrit or Pali or Prakrit languages.

How old is the Asokan Brahmi script? Emperor Asoka who ruled from 269 to 232 BC had to his credit inscriptions in the Greek, Aramaic, Kharoshti and the Brahmi scripts. The Brahmi

script of Asoka, therefore, is at least as old as the third century BC. It could have evolved slowly from an earlier script or it could have been invented during a fairly short period. It could have also been adapted/expanded from a contemporary script and the process could have been quite complex.

In order to clarify some of our thinking we shall look at four main aspects of the problem of Brahmi inscriptions. First we shall deal with the basic signs of the alphabet and ask ourselves the question as to the origin of these basic signs. We are not even defining what these basic signs are but it is a useful question. Secondly there is the question of relation between pairs of signs whose sound values are related. In some cases there is close similarity in sound values between letters which have similarity in shape. Thirdly there is the problem of representing vowels occurring in the medial position using special vowel-markers. Fourthly we have to consider the method of representing pure consonants. In other words we have to consider (i) basic signs, (ii) related signs, (iii) vowel-markers and (iv) systems of representing pure consonants.

Let us take up the question of the basic signs. We omit in this discussion those derived signs which are obviously related in shape to the basic signs in the Brahmi script. Without much difficulty some of the signs of the script can be treated as basic signs even if there is room for some difference of opinion about the details. Where did these basic signs come from? Some would claim that the signs were directly taken from some Semitic alphabet, others would claim that each sign evolved over hundreds of years from the Indus script. A more recent view is that these basic signs were invented.[5] We have proposed that the Brahmi script (TALBI and ASHBI) was invented from simple geometric shapes like the square and a circle and possibly based on certain geometric patterns found along with the Tamil-Brahmi inscriptions of Madurai region and the Brahmi inscriptions of Sri Lanka[6]. This view is in conformity with a Tamil tradition[7] that the shapes of letters were derived from geometrical shapes. An

inventor could have also made use of other scripts known to him and assigned suitable sound values to his signs.

We shall now discuss the aspect of related signs. Both in ASHBI as well as in TALBI there are pairs of signs which are similar in shape as well as in sound value. The sign for *PHA* in ASHBI is obviously derived from the signs for *PA*. So is the sign for *THA* (circled with dot in the middle) derived from the sign for *ṬHA* (circle). In TALBI the sign for one *NA* can be derived from another *NA* and sign for one *LA* can be derived from another by simply adding a horizontal line bent down on the right. It is fairly clear that there is some kind of design in these related signs and they could not have evolved over the years ending up accidentally with such close similarity in shape. Whether it be ASHBI or TALBI there was some design, some invention with referenee to the related signs. Even those who do not approve of the theory of invention of the Brahmi script have to agree that some of the signs were invented. If only some of the signs were invented then it weakens the case for wholesale borrowing of a *foreign* script. There is no reason why an inventor should not assign signs which appear similar to sounds which are closely related.

The presence of vowel-markers is an important aspeet of the Brāhmī alphabet. A short vertical stroke attached to the top right side of a consonantal sign represents the vowel *I* when it occurs in the medial position. Short strokes placed in other positions denote the other medial vowel signs. Such an use of vowel-markers is an inherent part of the Brāhmī system. It is difficult to claim that a system was also borrowed from a Semitic script which is not known to have had any such developed system. In many Semitic systems the medial vowels were not represented but had to be guessed from the context and the writing was from right to left. In Brhāmī the writing is from left to right and we have a developed system of vowel-markers which are arranged in such a way that there is not much ambiguity between the different simple and compound signs. Continuing our discussion on the system of

vowel-markers we shall compare ASHBI with TALBI and see whether there are any differences. There seems to be one uniform method used in the ASHBI system whereas more than one system seems to be present in the TALBI inscriptions. In ASHBI a short horizontal stroke on the top right side of a consonantal sign would represent the long medial *A*. Such a uniformity of representation is lacking in the TALBI system. In some TALBI inscriptions the sign represents only the short medial *A* and in some others which appear to be a little later, the same sign represents the long medial *A*. Such a difference will be discussed in the context of the antiquity of the TALBI system a little later. The system of vowel-markers is unique to Brāhmī and I know of only one other script, viz., Ethiopean, where a slightly different system is used to represent vowel-markers.

The fourth aspect is the method of representing pure consonants. Surprisingly the system used in the TALBI inscriptions is quite different from the one used in ASHBI inscriptions. In the ASHBI system to denote a pure consonant the sign representing the next sound was placed below the first sign. Each consonantal sign represented a consonantal syllable with an inherent *A* and the placing of a sign below another indicated that the top sign represented a pure consonant. In some cases the bottom sign represented the pure consonant and the combined sign had to be read from bottom to top. This system has an obvious drawback when the last letter of a word is pure consonant. In ASHBI the pure consonant *M* was represpnted by a small circular mark and the language of the Asokan inscriptions did not normally use other consonants in the terminal position. So far we have not discovered any TALBI inscription which uses this Asokan system of representing pure consonants. Surprisingly Tolkāppiyam refers to the shape of the letter *M* as the shape of a *puḷḷi* which was most probably a small circular mark as in the TALBI inscription of Anaimalai[8].

Pure consonants were denoted in two different ways in TALBI inscriptions. In some inscriptions a consonantal sign

without a vowel-marker denoted a pure consonant. This is quite different from the ASHBI system in which each consonantal sign represented a consonantal syllable with an inherent *A*. In some other TALBI inscriptions a consonantal sign accompanied by a consonant-marker in the form of a *puḷḷi* represented the pure consonant. The *puḷḷi* was also used in some TALBI inscriptions to discriminate a short *E* from a long *E* both in the initial and the medial positions. It was also used to distinguish between the short and long *O*'s. In ASHBI inscriptions no distinction is made between the long and the short forms of *E* as well as *O*. In many TALBI inscriptions no distinction is made between the short and the long forms of *E* as well as *O*. These two sounds occur in Tamil language much less frequently than the vowels A, I and U. In many TALBI inscriptions no distinction is made between the long and the short *A* in the initial position. Neither is any distinction made between the initial long and short *I*.

What is the relationship between the TALBI and the ASHBI scripts? The shapes of letters which are common to both the scripts are more or less the same and therefore the two scripts could not have originated completely independent of each other. Some scholars have held that the two scripts descended from some common source. Many have held that TALBI originated from ASHBI and a few others have suggested that TALBI is more ancient than ASHBI[9].

The problem is getting more interesting now due to two reasons. The first is the possibility of ASHBI (or TALBI) having been invented[10]. The second is the proposal by Mahadevan[11] that there are three systems of writing ancient Tamil which we shall call TALBI-I, TALBI-II and TALBI-P, the *puḷḷi* system which is described in Tolkāppiyam. Other systems have to be reconstructed from the available data.

If the hypothesis that ASHBI (or TALBI) was invented along with the system of vowel-markers is acceptable then we have only two possibilities, viz., that either ASHBI precedes

TALBI or TALBI precedes ASHBI (We are overruling a simultaneous invention of both the scripts at one centre in India). Even those scholars who do not subscribe to the hypothesis of invention can join in the discussion by starting at the stage of the introduction of the vowel-marker system.

Let us consider the TALBI-I system of writing. The syllable KA is written in the form of a cross with a horizontal vowel-marker on its top right side. This is in contradiction to the method in Tolkāppiyam which says that all consonant signs without *puḷḷi* will represent the corresponding syllables with medial *A*. However Tolkāppiyam allows for lengthening of vowels by adding additional vowel signs. This could support the existence of the TALBI-I system. It is still puzzling however why Tolkāppiyam does not speak explicitly about the different systems if they had existed before it was written.

In the second system, viz., TALBI-II, the system described in Tolkāppiyam is followed except for the *puḷḷi*. A sign in the form of a cross will represent both the pure consonant *K* as well as the syllable *KA*. In the third system, viz., TALBI-P, there is no ambiguity between the pure consonant (marked with a *puḷḷi*), the syllable with the short medial *A* (no puḷḷi) and the syllable with the long medial *A* (with an additional vowel-marker attached to the sign on the top right hand side). Even in the representation of the initial vowel signs a *puḷḷi* is introduced to distinguish the short E and O from the corresponding forms representing long vowels. For the other initial vowel signs a short horizontal stroke is used to indicate the lengthening of the vowel signs. If the Tamil system of writing is equated with TALB1-P system then of course the ASHBI script will appear to be older than TALBI script but there are other possibilities.

One can get away with saying that TALBI- system is a figment of imagination and all that the scribes had done was misspelling of words including those in the Mangulam inscriptions which refer to Nedunchezhian. However there is another

system of writing which is very similar to TALBI-I where the long medial vowels are indicated by a long horizontal stroke bending down on the right. This is the Bhattiprolu system, which we can call BATBI. I am quite convinced that in the TALBI inscriptions many systems are mixed up and words are misspelt. Inspite of that one can have a discussion on the relationship between the five systems, viz., ASHBI, TALBI-I, TALBI-II, TALBI-P and BATBI.

Let me first state my present position. Not because this is the only solution to the problem but mainly to emphasize that it is one of the possible solutions. TALBI-I was invented first for writing Tamil language. It could have had an early as well as late phase. ASHBI was designed on the basis of TALBI-I using the same geometrical compound signs. The letter *I* was modified into three little circles instead of three horizontal strokes. New signs for the voiced consonants were invented. ASHBI spread all over India including the present Mysore region Andhra Pradesh and Sri Lanka. TALBI-I was slowly given up in Tamil Nadu and people changed over to TALBI-II whereas in Andhra Pradesh TALBI-I had already developed into BATBI. In TALBI-II there was no way of representing a pure consonant unambiguously and the TALBI-P came into vogue. However the scribes often ignored the *puḷḷi* since they could make out the correct value from the context.

On the contrary if we assume that ASHBI came first and TALBI-I was an adaptation of ASHBI, the question is why did they not follow simply the ASHBI system of writing for Tamil and just invent additional signs for the special sounds? By using TALBI-I the writings would not be intelligible to the officers from the Mauriyan court and the Jain and the Buddhist monks of north India who visited Tamil Nadu. ASHBI system is closer to TALBI-II system. It is quite likely that the ASHBI system was not followed in Tamil Nadu since they had already a TALBI-I system. Therefore they modified the ASHBI system but did not follow the system of writing one letter below the other. It is not possible to visualize a simple

transition from ASHBI to TALBI-I and then from TALBI-I to TALBI-II.

There are many other possibilities. TALBI-I and TALBI-P could have existed from the earliest times and all the three systems could have existed side by side. If there were so many systems in TALBI that were experimented upon in Tamil Nadu then it would support the hypothesis that the original home of the Brahmi scripts was Tamil Nadu.

The date of Tolkāppiyam is closely linked with the date of the introduction of the TALBI-P system but it is difficult to date the TALBI inscriptions in general and the TALBI-P writings in particular. The contents of the TALBI inscriptions and the variations in the shapes of letters raise many interesting problems. What is the period of Nedunchezhian and Athiyaman Nedumananji? Were they contemporaries of Asoka or did they belong to a period which is 400 years after Asoka? We know that the Cholas, Pandyas and Satyaputras were ruling the neighbouring kingdoms of Asoka. Do we know the personal names of any of these kings? It is generally held by students of history that Senguttuvan, Karikalan, Nedunchezhian and Adiyaman Nedumananji belong to the second century A.D. If that is right then the recently discovered Jambai inscription of Adiyaman Nedumananji must belong to the second century A. D. In that inscription Adiyaman is referred to as *Satyaputo* and the title is spelt in exactly the same way as in the second rockcut inscription of Asoka at Girnar. The shape of letters are almost the same as the letters of Asokan edicts but is quite different from the letters of the wellknown legend on the coin of a Satakarni king of the second century A. D.[12]

Scholars have tried to date the TALBI inscriptions on the basis of the development of the shape of the letters without taking into consideration the fact that there is a lot of variation in the shape of letters in the Asokan inscriptions[13] as well as in the Brāhmī inscriptions of Ceylon. There is no strong basis for dating TALBI inscriptions on the basis of the shapes of letters since we do not have securely dated

isncriptions. Very often scribal characteristics are mistaken for period characteristics. We have to take a fresh look at the late dates given for Adiyaman and Nedunchezhian in the light of the recent epigraphical discoveries.

There is still no general agreement on the origin of the TALBI script and I have presented in this paper a theory describing the complexity of the problem. Fresh excavations need to be undertaken in the Madurai region and these may provide useful material that may lead to a better understanding of the origin and development of the Tamil-Brāhmī script.

REFERENCES

1. Gift Siromoney, S. Govindaraju and M. Chandrasekaran, *Tirukkuṟaḷ in Ancient Scripts*, Tambaram, 1980,
2. I. Mahadevan, "Corpus of the Tamil-Brāhmī inscriptions", *Seminar on Inscriptions*, Madras, 1968, pp. 57-73.
3. Gift Siromoney, S. Govindaraju and M. Chandrasekaran, *Kalveṭṭu Eḻuttukaḷai Kaṟka Oru Putuvaḻi*, Tambaram.
4. Mayilai Seeni. Venkatasamy, *Sangakālattu Brāhmī Kalveṭṭeḻuttukkal*, Madras, 1981.
5. Gift Siromoney and M. Lockwood, "The invention of the Brāhmī Script", Madras Christian College Magazine. XLVI (1977), pp. 31-33; *Souvenir of lhe* Fourth *Annual Conference of the Epigraphical Society of India*, Madras, 1978, pp. 42-50.
6. S. Paranavitana, *Inscriptions of Ceylon*, Vol. I, 1970.
7. *Tolkāppiyam, Eḻuttu Atikāram*, Sūtra I (Commentary of Nachinarkiniar)
8. Emmanuel Jebarajan and Gift Siromoney, "On the occurrence of the Puḷḷi in the Tamil-Brāhmī Inscription of Anaimalai", *New Dimensions in the Study of Tamil Culture*, Palayamkottai, 1978, pp. 8-12.
9. Cift Siromoney, "The Origin of the Tamil Script", *Tamil Studies*, Vol. II (1982), pp. 8-23.
10. S, P. Gupta and K. S. Ramachandran (Eds.), *The Origin of thc Brāhmī Script*, Delhi, 1979.
11. I. Mahadevan, *Tamil Brāhmī Inscriptions*, Madras, 1970.
12. R. Nagaswamy, "A bilingual coin of a Satavahana", *Seminar on Inscripttons*, Madras, 1968, pp. 200-202.
13. E. Hultzch, *Corpus Inscriptionum Indicarum*, Vol. I, Oxford, 1925.

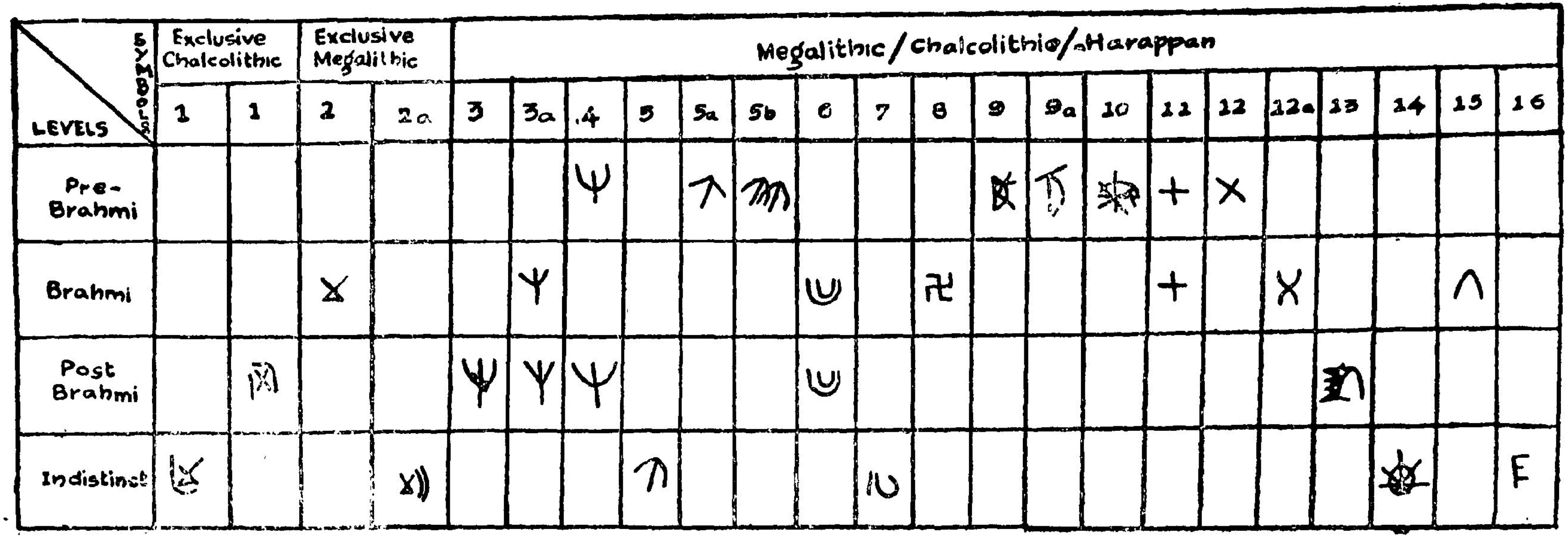
GRAFFITI AND TAMIL BRĀHMĪ

Dr. P. SHANMUGAM

The study of Graffiti has been a subject of absorbing interest to an archaeologist. Many have devoted their time to unravel the mysteries of graffiti. Among them B. B. Lal, has contributed in a significant manner. He has surveyed the graffiti of Megalithic, Harappan, and Chalcolithic periods in a lengthy article published in 1962.[1] His study informed the scholarly world about the possible relationship between the Megalithic graffiti and the Harappan and Chalcolithic periods. Though he has not proposed any theories on the basis of his study some of his observations are important. Out of the 61 symbols studied by him 47 are common to the Megalithic, Harappan and Chalcolithic pottery; six are exclusive to the Megalithic pottery and eight to the Harappan and post-Harappan, Chalcolithic.[2] He further observed that some symbols are common to Harappan and Brāhmi scripts.[3] T. V. Mahalingam included a chapter on graffiti in his work, *Report on the Excavation in the Lower Kaveri Valley.*[4] (Tirukkampuliyur and Alagarai). S. Gurumurthy in his Ph. D. Thesis[5] *Ceramic Traditions in South India*) has described the graffiti found in the excavations in South India. However this part has not been included in the published version of his Ph. D. thesis published recently. These two works are important in their own way, but are not useful for our study since these works devote more space for the description of the symbols, rather than for a critical evaluation of the symbols.

It is assumed by some scholars that Brāhmi script (Tamil-Brāhmi) was derived from the Graffiti. Other scholars would argue for a connection with the Harappan symbols. These studies are still in the formative stages and the problem has not received its due attention among the scholars.

GRAFFITI FROM URAIYUR



The aim of the present paper is to study the relationship of graffiti with the Tamil-Brāhmī script. The study is restricted to a detailed analysis of a single site, Uraiyur in Tiruchirappalli district. This ancient Chola capital was excavated by the Department of Ancient History and Archaeology, University of Madras between the years 1974 and 1978. The excavation brought to light several pieces of Brāhmī inscriptions on potsherds with a good amount of pottery with graffiti.

The present study employs stratigraphy for relating graffiti with Tamil Brāhmī. So far no study was made on the basis of stratigraphic analysis. The published reports list the graffiti serially and describe their form.[7] Stratigraphic details are almost absent. Hence the scholar is put to a great disadvantage. In the case of the present study the author had the opportunity to handle the sherds himself. Hence he could place each sherd in its correct stratigraphic position.

At Uraiyur 12 trenches were laid out. Excepting one, all the other trenches went to a depth of about 10 ft. The one, URY-8, laid within the compound of a private house, went to a depth of about 16 ft. the maximum depth reached in the whole of the Uraiyur excavations. However the cultural deposits in all the trenches were almost the same and three cultural periods were identified on somewhat clear grounds. The stratigraphy seems to be clear, showing a dominant Black and red ware phase (period I) superimposed by a dominant red slipped ware phase of medieval times (period II). This was followed by period III[8] characteristic of ill fired crude red ware pottery.

The graffiti and inscribed Brāhmī sherds were found in the lower levels assignable to period I. In four trenches (URY-1, 4, 7 and 8) Tamil-Brāhmī sherds were discovered. About 15 Tamil-Brāhmī sherds were found at the level immediately above the natural soil in Trench-4. In other places Brāhmi sherds were found in the upper levels higher than the natural soil.

Graffiti sherds were found in the trenches URY-1, 2, 4, 5, 6, 7 and 8. In these trenches, 1, 7 and 8 graffiti were found at

the level immediately above the natural soil. In trenches 1, 4 and 8 the graffiti were found along with the Tamil-Brāhmī sherds. In the post-Brāhmī levels also graffiti were found in trenches 4 and 8. In trenches 2, 5 and 6 the graffiti's association with Brāhmī was not substantiated by the occurrence of any Tamil Brāhmī sherds.

More than 50 symbols were found in Uraiyur. About 16 symbols are important for our study. Symbol 1a, found in the post-Brāhmi level was the chalcolithic symbol identified by B. B. Lal[9]. Symbol 2 was a megalithic symbol[10] noted by B. B. Lal, found in the Brāhmī level. The other symbols (3-16) are found in the Megalithic, Harappan and Chalcolithic cultures. Of these symbols 1a, 3, 3a, 4, 6 and 13 are found in the Post-Brāhmī levels. Symbols 2, 3a, 6, 8, 11, 12a and 15 are found along with Tamil-Brāhmī sherds. Symbols 4, 5a, 5b, 9, 9a, 10, 11 and 12 are of pre-Brāhmī symbols. The association of Brāhmī with symbols 1, 2a, 5, 6, 14 and 16 is not clear since they are not found with Brāhmī sherds.

Among the pre-Brāhmī symbols, symbol 4 is also found in the post-Brāhmī level; symbol 11 is found in the Brāhmī level. Among the post-Brāhmī symbols, symbols 3a and 6 are found in the Brāhmī level.

From the foregoing analysis it becomes clear that graffiti sherds are found in three distinct cultural deposits, i.e. (1) Pre Brāhmī (2) Brāhmī and (3) Post-Brāhmī levels. From this it can be suggested that the graffiti was used earlier than the Brāhmī found on the potsherds. Also it becomes clear that at one stage the writing of Brāhmī on potsherds was given up, whereas graffiti was continued in use. It can further be emphasised that the ancient practice of scratching on potsherds was continued even after the adoption of a regular system of writing.

Since the symbols are found associated with Brāhmī sherds, they can be dated to some extent. Even if we assign these

Brāhmī sherds to 1st century B. C. the pre-Brāhmī and post-Brāhmī graffiti can be fixed tentatively at 2nd century B. C. and 1st century A.D. respectively. Since all the symbols under study were found in the megalithic, Harappan and Chalcolithic culture period, the date 2nd century B. C. and 1st century A.D. may seem significant. Two symbols identified as exclusive symbols for (a) the megalithic and (b) the chalcolithic periods are also found in the Brāhmī and post-Brāhmī levels respectively. Possibly this could mean the survival of the Harappan and Chalcolithic symbols at this place. An independent development of these signs in this area could be another possibility.

The use of the graffiti along with the Tamil Brāhmī suggests the co-existence of two different methods of writing, independent of the other. Though a few of the Brāhmī signs could be identical with the graffiti (+ × 8 ω) there is no way of fixing their phonetic values since they are not associated with any other symbols. Considering the coexistence of graffiti and Brāhmī and the survival of graffiti even after the disappearance of the Brāhmī, on potsherds, it appears as though Brāhmī was not developed from the graffiti. As far as the Uraiyur evidence is concerned the above view seems to be amply substantiated. However the conclusions drawn on the basis of Uraiyur evidenee may be treated as tentative until it is supported by similar evidence.[12]

REFERENCES

1. B. B Lal, 'From the Megalithic to the Harappa: tracing back the graffiti on the pottery, in *Ancient India* (*AI*) Archaeological Survey of India, New Delhi, 1962 No. 16, pp. 4-24.

2. *Ibid.*, p. 21.

3. *Ibid.*, pp. 23-24.

4. Published by the University of Madras, 1970, pp. 46–47 and pp. 100–104.

5. Ph. D. Dissertation submitted to the University of Madras.

6. Published by the University of Madras, 1981.

7. See for example, T. V. Mahalingam, *Report on the Excavations in the Lower Kaveri Valley*, 1970, pp. 46–47 and pp. 100–104.

8. *Indian Archaeology - A Review*, 1965–66 : p. 26–27 ; 1967–68 : pp. 30–31.

9. *AI*, No. 16, p. 20, symbol 59, plate XXXIII, II.

10. *AI*, No. 16, p. 19, symbol 51, plate XXXII, 4.

11. See Diagram.

12. I thank Dr. K. V. Raman, Professor and Head of the Department of Ancient History and Archaeology, University of Madras, for permitting me to use the unpublished material kept in the department.

TAMIL BRĀHMĪ AND VAṬṬEḺUTTU— ASPECTS REGARDING CHRONOLOGY AND EVOLUTION

Dr. K. V. RAMAN

I. In the recent decades we are getting a better picture of the Tamil Brāhmī Inscriptions. They are no longer confined to the caves and the Jain beds; they are also found on the pots found in the ancient sites like Uraiyur, Kanchi, Koṛkai, Karur and also on coins like the Andipatti coins. We are also in a better position with regard to their dates, especially on the basis of Arikamedu finds datum-line as well as the historical contents of the inscription like those at Pugalur. However there are still a few points which need further investigation and clarity. I wish to pinpoint the attention of the scholar to certain specific points for further clarification.

There are two inscriptions at Māṅgulam which mention clearly the Pāṇḍyan king by name Neḍunjeḷian in the context of a grant - one mentions a grant by an officer to a Jain *āsiriyar* and another to the same monk by Ilancatikan brother-in-law (Salekan) of Nedunceḷiyan. I consider this an important inscription for the purpose of chronology. We have only two Pandyan kings Nedunche]iyan by name-(1) one Aryapadaikkadanda Nedunjeḷian and the other (2) Talaiyālangānattu Nedunjeḷiyaṅ (A.D. 210). The former is earlier. He was a contemporary of Kovalan and Kaṇṇagi and so contemporary of Seran Seṅguttuvan of Gajabāhu synchronism and therefore datable to the second century A.D. around 180 A.D.

But I. Mahadevan had on palaeographic grounds ascribed it to archaic i.e. 2-1 century B.C. This problem needs further investigation and a second look. It is worth trying to consider the Māṅgulam inscription as belonging to the 2nd century A.D. and work out the chronology of other inscriptions. I feel that

though palaeography is a useful basis or guidance to determine the stages of advancement of a script, its utility is rather minimised when used in shorter spans of time, e.g. within 100 years. It may not serve as a sure guidance within 100 years. So, we can take into consideration the historical contexts, internal and circumstantial evidences etc. as we have done for the Pugalur inscription of the Cheras. One other interesting inscription has been found recently at Jumbai belonging to Satiyaputa Adiyaman Neduman Anji who was a contemporary of Perunjeral Irumporai and Tondaiman Iḷam Tiraiyan and Karikala and therefore datable to 2nd century A.D. On the basis of these synchronisms, it appears that the earlier Brāhmī inscription so far obtained seem to be datable around 1st or 2nd century A.D. when many of the celebrated kings of the Sangam period were flourishing.

II. The next problem that deserves discussion and explanation is with regard to the connection between Tamil Brāhmī and Vaṭṭeḻuttu scripts. As you all know it is considered the Vaṭṭeḻuttu in its full fledged form was current only in the Pāṇḍyan country and not in other parts of Tamilnad and that too from around the 7th or 8th centuries A.D. As it is, in the Pāṇḍyan country there seems to be a gap between the Brāhmī and the Vaṭṭeḻuttu and no continuity or link is found between the two. Recently, scholars are inclined to hold that the inscriptions of hero stones found in Dharmapuri and North Arcot districts provide the link between the Brāhmī and the Vaṭṭeḻuttu. Why the continuity is not found in Pāṇḍyan country? The earliest of them in Pāṇḍyan country are found in the Vēḷvikkudi Copperplates i.e. 773 A.D. and the stone inscriptions of Pandyas at Anamalai also datable to 8th century. How can we explain the gap? Why this evolution is not attested by inscription in Pandyan country? This gap comes into sharp focus in most of the sites associated with Jain beds like Anaimalai, Tirupparankunram, Arittappatti, Kongar Puliyangulam, Kilavalavu etc. In all these places we have two sets of inscriptions – beds with Brāhmī inscription of earlier date and Jain sculptures with Vaṭṭeḻuttu inscription mentioning Jain

teachers like Vajranandi. These places continued to be Jain settlements but have two sets of inscriptions. It makes one ask the question (1) whether Brāhmī continued for a longer period in Pāṇḍyan country (2) whether Vaṭṭeḻuttu did not originate in Pāṇḍyan country but in Tondainad or Dharmapuri area and reached Pāṇḍyanādu only in the 8th century A.D. Here we must remember that the earlier specimens of Vaṭṭeḻuttu features are found in Tondaimandalam Tirunathankunru and the inscription of Tirukkalukkunram of Pallava Narasimhavarma I. It went into disuse after the Pallavas though it continued in the North Kongu portion.

III. All writers agree that during 8th century A.D. there were two Tamil scripts used simultaneously – Vaṭṭeḻuttu in Pandyanadu and the regular Tamil script in the Pallava country. Why this difference? Only after the Cholas conquered the Pandyanadu the Vaṭṭeḻuttu was replaced by Tamil script. Two questions emerge; the script of the Pandyanadu is known as Vaṭṭeḻuttu - what was the name of the script used in Pallavanad? One writer used the word "Tamil Script", and another as "Grantha-Tamil" (T. N. Subramanian). Can we call it Tondaimandalam Script? That means: Both Vaṭṭeḻuttu and the regular Tamil Script seem to have had their evolution only in Tondaimandalam because the earliest specimens of both are found here only. The two inscriptions which we have cited earlier, particularly Tirunathankunru inscription is considered as a watershed or dividing line from which both Tamil script of the Pallava country and the Vaṭṭeḻuttu started taking shape. In other words, the beginning of the Vaṭṭeḻuttu is ascribable to this inscription as well as the Hero stone inscription of Tondaimandalam and South Kongu. The earliest available inscription in the developed Tamil script is considered to be the Pallankoil copperplate inscription of the Pallava king Sivaskandavarman (6th century A.D.). The evolution of two sets of Tamil scripts simultaneously remains to be explained. Whether they had any dynastic or regional affiliation is worth being investigated further.

THE EVOLUTION OF TAMIL SCRIPT

(NATANA. KASINATHAN)

The earliest script found in Tamilnadu may be called the Archaic Tamil script, since it is invariably in Tamil language. In the beginning it seems to have adopted the alphabetical method i.e. using the vowelless consonant accompanied by a medial sign. In course of time it appears to have followed the system of syllabary, taking the vowelless consonant as vowelled consonant. In some of the inscriptions written in the archaic Tamil script both systems[1] are used suggesting that these inscriptions may have been written in the transitional period ie from the alphabetical method to syllabary.

In a certain period the whole system of writing seems to have been systematised and forced to observe certain prescribed codes. That may have been why the puḷḷi (dot) was added to denote the lesser sound letters. Even to differentiate the short 'e' and 'o' from the long ones, the puḷḷi was added. The letters bearing a dot in the Araccalur[2] and Pulankuricci[3] epigraphs and in the legends of Cēndan coin[4] are clear indication of the developed character of the archaic Tamil script. The use of the dot on consonants certainly reflects the development in the form of writing. Considering the developed character of the Araccalur inscription, it is quite safe to say that the adoption of the dot came into use at least in the post-christian era.

As observed earlier, development in the archaic Tamil script is quite signifiicant and conspicuous in the Araccalur and Pulankuricci inscriptions. That development is generally taken as the beginning of the new script known as Vaṭṭeḷuttu. What I want to stress here is that it was only the further evolution of the same archaic Tamil script. This evolution is noticeable in the Hero stone inscriptions of Irulappatti and of the Simhavarman, Simhavishṇu and Narasimhavarman period.

The evolution in the form of 'ṇa', 'na' is first noticeable in the Araccalur inscription. Other letters of this inscription also show a slight change in form but not in shape. On the other hand the Pulankuricci inscription has almost all the letters got changed in form and shape. The characters in the Irulappatti[5] inscription closely follow the script of the Pulankuricci. The hero stone inscriptions, especially of the Simhavarman[6], Simhavishṇu[7] Mahendravarman[8] and Narasimhavarman[9] period bear the developed form of the Pulankuricci and Irulappatti characters. In the above mentioned epigraphs there is no other script except the developed character of the archaic Tamil script.

For the first time we meet the different types of character (now known as Tamil script) in the cave inscriptions of Vallam[10] in Tondaimandalam, and Malaiyadikkuricci[11] in Pandimandalam and in the copper plate of Simhavarman[12]. How did this new script make a sudden appearance? It must have been possible due to the influence of the Grantha character that was used to write the Prakrit and Sanskrit charters of the Pallavas, with the archaic Tamil script.

The Pallavas who are believed to have been the successors of the Ikshvakus of Nagarjunakonda and came to Tamilnadu from Andhra Pradesh were very familiar with the Grantha character. Therefore while writing their royal charters in Prakrit and Sanskrit, they seem to have adopted the Grantha script. That they were staunch patrons of Sanskrit and Grantha is clearly attested by the large number of Sanskrit inscriptions written in Grantha script found on the walls of their caves and structural temples. They were also the pioneers in introducing bilingual charts written in two scripts. This too appears to have been adopted by them from their predecessors like the Andhra Satavahanas.

But at the same time Pallava citizens seem to have continued writing their transactions only in their own script, Vaṭṭaḻuttu ie. the developed form of archaic Tamil script. This system was in existence upto the 8th century A.D. in

Tondaimandalam. The same system appears to have been prevalent even in the Chola and Pandimandalam upto the same period. Afterwards all the monarchs of Tamilnadu seem to have thought it was a great privilege to use both the Sanskrit language and the Grantha script in stone inscriptions as well as in copper plates. But it is interesting to note that the Paṇḍyas who were eulogised as great patrons and promoters of Tamil, used only the developed form of archaic Tamil script (which was known as an un-understandable Vattam during 12th and 13th centuries A.D.) in their copper plates. Even in the records of the Pāṇḍyan country and the Chera Nadu where the developed Tamil script ie. Vaṭṭeḻuttu was used for writing records in the Tamil language and Grantha script for the Sanskrit portion, Tamil words occurring in the Sanskrit portion were written only in the new Tamil script and not in the uninfluenced old Tamil script[13]. *From this it may be surmised* that the new Tamil script was the innovation of the Sanskrit patrons ie. Pallavas.

The banner of the new Tamil script raised aloft by the Pallavas was well protected by the Imperial Cholas. They adopted this new script both in stone inscriptions and in copper plates. Their copper plates contain the first part in Sanskrit language in Grantha characters and the second part in Tamil language in the Tamil script. In the nuclei of Cholamandalam there is not even a single inscription written in the old Tamil script. They even took all kinds of measures to promote and spread this new Tamil script in every nook and corner of Tamilnadu. They seemed to have compelled the people in the territories conquered by them to use this new Tamil script. That is why that old Tamil script ie. Vaṭṭeḻuttu had become understandable to the people from the 12th century onwards.

This new Tamil script retained its popularity and uniqueness till the arrival of the admixtured form of Grantha and Tamil scripts in inscriptions introduced by the Vijayanagar kings. But the new *Tamil* script did not lose its originality and again emerged as the single popular and foremost script in Tamilnadu during the pre and post independence periods.

Chart I—Shows the evolution of Modern Tamil script from Archaic Tamil script through the influence of Grantha script

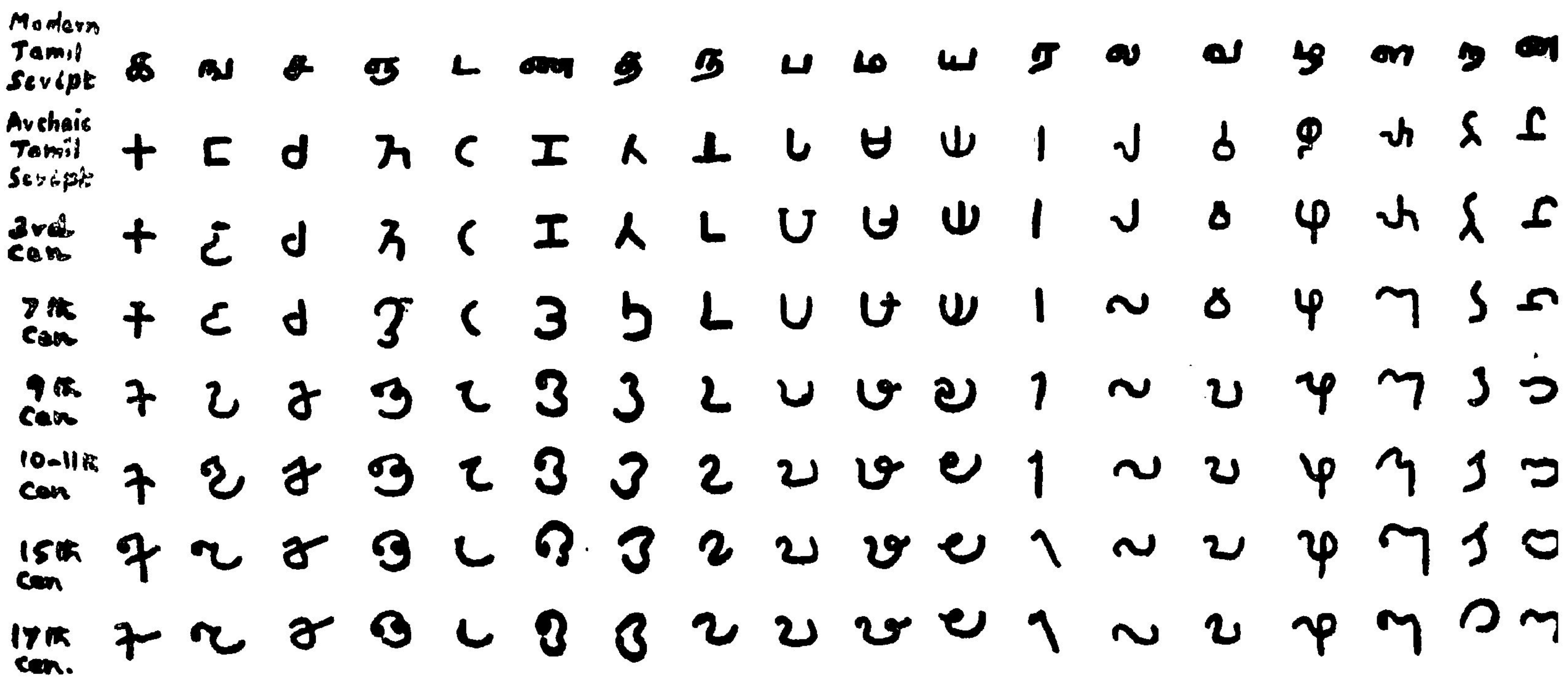


Chart II—Shows the evolution of old Tamil script also known as Vaṭṭeḻuttu from Archaic Tamil script

REFERENCE

1. Mankulam Archaic Tamil Inscription, Kalvettuk Karuttaranku (Seminar on Inscriptions) edited by R. Nagaswamy P. 69.
2. Ibid, P. 76.
3. Nagaswamy, R. 'An outstanding epigraphical discovery in Tamilnadu', Proceedings of the Fifth International Conference Seminar of Tamil Studies, P. 2 - 67-71.
4. Dr. R. Nagaswamy, Tamil coins, a study, P. 140 - 141.
5. Damilica Vol. I, Part I, page 21.
6. Tamilnadu State Department of Archaeology.
7. Dharmapuri Kalvettukal 1972/2.
8. Chengam Nadukatkal 1971/59.
9. Ibid, 1971/36.
10. South Indian Inscriptions Vol. II Part iii, No. 72.
11. A.R.E. No. 358 of 1959 - 60.
12. Transactions of the Archaeological Society of South India, 1958 - 59 pp. 41 - 83.
13. Larger Sinnamanur plates of the Pandya king Rajasimha, S.I.I. Vol. III.

ORIGIN AND EVOLUTION OF VAṬṬEḺUTTU SCRIPT

BY

R. KRISHNAMURTHY, M.A.

Vaṭṭeḻuttu is an ancient Tamil Script. We have inscriptions from 3rd or 4th Century A.D. onwards. This script was used by the Pāṇḍyas, the Cheras and by Kongu Cheras. Hero stones with Vaṭṭeḻuttu inscriptions are found in large numbers in Dharmapuri and in North Arcot Districts of Tamil Nadu. This script was in use in Pāṇḍya country till the end of 10th or 11th Century A.D. After the Chola conquest the script was gradually replaced by the modern Tamil Script. In the Chera country this script was in use for a much longer time.

In North Kerala, the modified form of Vaṭṭeḻuttu called 'Kōleḻuttu' was in use till the end of 18th Century A.D. The agreement between the Dutch East India Company and Cochin Maharaja was written in Kōleḻuttu in the year 1663 A.D.

Even now several Kōleḻuttu palm leaves are available in Calicut University and in Trivandrum Oriental Manuscript Library.

South Indian Paleography

The credit to the study of South Indian Paleography should go to Burnell and to Buhler. Buhler who studied the inscriptions engraved in the relic caskets from Bhattiprolu in the Krishna district, in Andhra Pradesh felt that they were in the Brahmi Script of Dravidi variety and assigned them to a period slightly later than the period of Asoka.

In the course of the present century some seventy five inscriptions written in the Tamil-Brāhmī variety of the Brāhmi script have been found in a number of natural caverns in the districts of Tirunelveli, Madurai, Ramanathapuram, Tiruchirapalli,

Coimbatore, Salem and Chengleput districts of Tamil Nadu. Dr. T. V. Mahalingam[1] assigns an age from 3rd Century B.C. to the late 3rd or to early 4th Century A.D. to these inscriptions.

But Mr. I. Mahadevan[2] gives a period ranging from 3rd Centuary B.C. to 6th Century A.D.

K. V. Subramania Iyer was the first Scholar to read and interpret the records as written in Tamil Language. He with commendable ingenuity fixed the value of the new symbols as those of letters peculiar to Tamil Language such as ı (ன) ḻ (ழ) ḷ (ள) ṟ (ற) ṉ (ண).

The full credit should go to Mr. I. Mahadevan who has completely studied the inscriptions and given a satisfactory reading of the inscriptions.

Origin of Brāhmī

Brāhmī is considered to be the Mother of all Indian Scripts. The Brāhmī, bursts into blooms in the third century B.C. in the inscriptions of Asoka. The script that appears in the edicts are developed, well bred and well defined.

As regard its origin many western Scholars believe the script to be of foreign origin. A Semitic origin was suggested by many eminent scholars including Dr. Burnell and Buhler who are great authorities on Indian Scripts.

Some Indian Scholars believe that Brāhmī Script might have been derived from the Harappan Script. But there are many hurdles and the theory is not satisfactorily proved. It is beyond the scope of this paper to discuss that.

Origin of Vaṭṭeḻuttu

This alphabet is surmised by Dr. Burnell to have had its origin in the Phonecian and Aramaic characters. Since we do not have much evidence to prove that, we may for the present need not take that into consideration. T. A. Gopinatha Rao,[3] who can be considered to be an authority on Vaṭṭeḻuttu has stated in his article in Travancore Archaeological Series "To

me it appears that the Vaṭṭeḷuttu is most likely derived from Brāhmī variety of the Asoka alphabet, like all other alphabets of India, the Nagari, the Tamil Grantha and the Telugu Kannada Groups. But it had had a separate line of evolution."

According to Dr. R. Nagaswamy,[4] Vaṭṭeḷuttu script has evolved from Tamil Brāhmī sometime during 3rd century A.D. (Tamil Brāhmī is considered to be a branch of Asokan Brāhmī). Mr. I. Mahadevan[5] even though agrees to the origin of Vaṭṭeḷuttu, from Tamil Brahmī, disagrees with the period. He thinks it might have happened during the beginning of the Pallava rule i.e. 600 A. D.

While the origin of Vaṭṭeḷuttu from Tamil-Brāhmī is not much disputed, there is still a lingering doubt about its age.

Starting from 3rd century A.D. to 5th Century A.D. there are several inscriptions in which well developed forms of Vaṭṭeḷuttu can be seen along with Tamil-Brāhmī characters.

If it had developed by a slow process of evolution, there might have been some intermediate form. But we come across individual well developed characters along with Tamil-Brāhmī characters. We shall consider those inscriptions in detail.

1. Pūlānkurichy Inscription :[6]

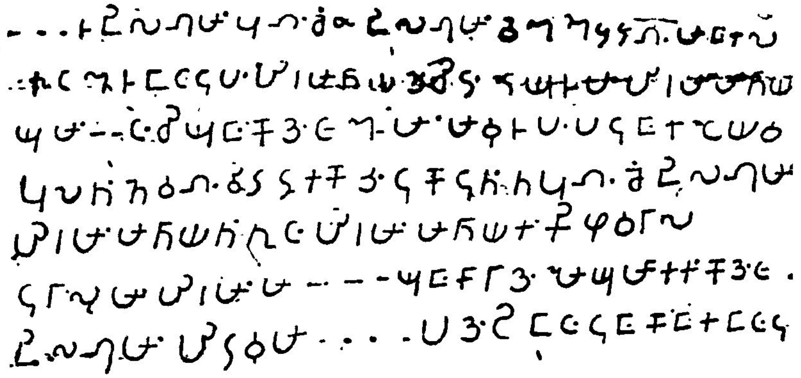
The Tamil Nadu State Archaeological Department has recently discovered in Pūlānkurichi village (near Ponnamaravathi) in Ramnad Dt. a Tamil-Brāhmī inscription.

This inscription is assigned to 3rd century A.D. according to Dr. R. Nagaswamy. His conclusion is based on paleographical grounds. In this inscription three clear Vaṭṭeḷuttu forms are seen.

1. t (த்) -
2. ṇ (ண்) -
3. ṟ (ற்) -

If we accede to the theory that Vaṭṭeḷuttu developed in stages from 3rd century onwards, then there is no possibility

of finding such developed Vaṭṭeḻuttu characters along with Tamil-Brāhmī in this inscription.



A part of the inscription referring to Brahmadaya lands, Pandināḍu Kongunadu etc. Note the use of dots for denoting consonants and short 'e' 'o' etc.

Pūlānkurichy Inscription

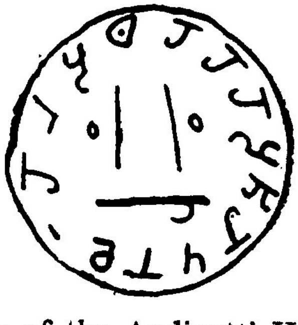
2. Andipatti Hoard :

An important discovery of lead coins, was made in Andipatti village of Chengam Taluk, North Arcot district some 15 years back. These coins are in Madras Museum now. According to Dr. R. Nagaswamy,[7] these coins are identical, the coins bear on one side a legend in Tamil language and the legend is in early Tamil-Brāhmī characters.

In this coin the character 'e' (எ) is seen. This character ⊙ has a puḷḷi or dot in the centre. This is a Vaṭṭeḻuttu character. This form satisfies the Tolkāppiya sūtram.

Ekara Okarattiyaṟkaiyum aṟṟe

Its age is considered to be 2nd or 3rd century A.D. by Dr. R. Nagaswamy[8]



Coin of the Andipatti Hoard

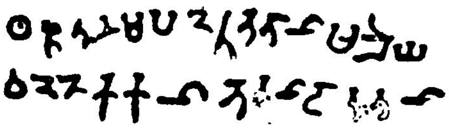
3. Araccalur Inscrip..on

In this inscription we find the following Vaṭṭeluttu characters.

1. t (த) -
2. ṇ (ண) - (incomplete)

Even though e (எ) ⊙ looks like Vaṭṭeluttu, I am not taking that into consideration.

Araccalūr



Vaṭṭeluttu characters are seen along with Tamil-Brāhmi characters. The age of this inscription is between 3rd century A.D. to 6th century A.D. according to I. Mahadevan and Dr. T. V. Mahalingam gives an upper limit of 4th century A.D.

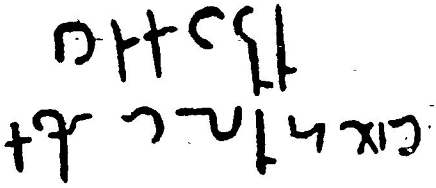
4. Pillaiyār paṭṭi :

In this inscription we find the following Vaṭṭeluttu characters.

1. e (எ)
2. ṉ (ன)

These Vaṭṭeluttu characters are found with Tamil-Brāhmi inscriptions. The age of the inscription is given by I. Mahadevan to be between 3rd century A.D. to 6th century A.D. and by T. V. Mahalingam to the maximum 4th century A.D.

Piḷḷayārpaṭṭi

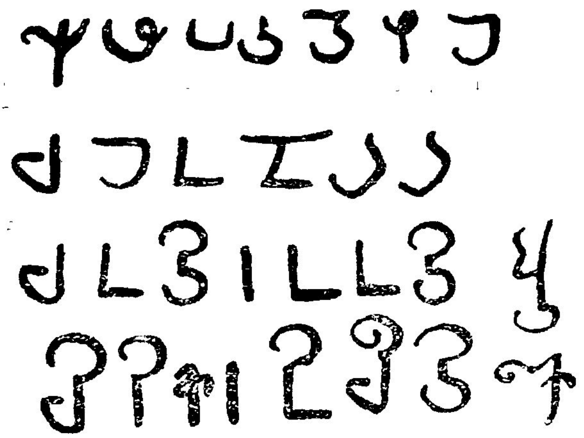


5. Tirunāthar Kunru Inscription :

Till recently this inscription was considered to be the most ancient inscription in Tamil Nadu. Some Scholars consider that this inscription belongs to 5th century A.D. and others to 6th century A.D. It has some characters similar to Pūlānkurichy inscription. This inscription has got the following Vaṭṭeḻuttu characters along with Tamil-Brāhmi characters.

1. ai (ஐ) 2. ma (ம) 3. ṟ ( ) 4. ṉ (ன)

TIRUNATHAR-KUNRU INSCRIPTION



Aimbatt-ēḻ-aṉa—	ஐம்பத்தேழன-
Śaṉannōṟṟa	சனந்நோற்ற
Śandiranandi Ā—	சந்திரநந்தி ஆ
Śirigar nisidikai	சிரிகர் நிசிதிகை

From the examples given above we can find that developed Vaṭṭeḻuttu characters are found in ancient inscriptions starting from 3rd century A.D.

Considering the above facts, I consider that Vaṭṭeḻuttu characters may have an earlier origin than 3rd century A.D.

6. Growth :

The Vaṭṭeḻuttu Script was encouraged by the Pandya Kings, Chera Kings and by the Kongu Cheras. Various inscriptions are noted by the Central and State Archaeological Departments and published in various journals.

Numerous Vatteluttu Hero-Stones from North-Arcot and South-Arcot Districts have been discovered by the Tamil Nadu State Archaeological Department during the past ten years. Many of them contain Tamil-Brāhmi and Vatteluttu characters. Of all the inscriptions, Vaḷvikudi Copper grant can be taken to evaluate the various aspects of this script. The estempage of the grant is available in the book 'Pāndyar Cheppedu Pattu' published by the Tamil Vaḷarchi Kazhagam.

Important aspects found in that copper plate are given below.

Vowels

There are only eleven vowel characters. The Character 'au' is not seen.

A dot or puḷḷi is used for shortening the vowels. 'e' and 'o'

1. e (எ)-

2. o (ஒ)-

This is according to the Tolkāppiya Sūtram.

Ekara Okarattiyaṛkaiyum aṛṛe

Āytham: Āytham (.:.) character is not seen.

Pure Consonants: Dot or puḷḷi is used in all pure consonants. According to the Tolkappiya Sūttiram

Meyyiṉ iyaṛkai puḷḷiyoḍu nilaiyal

The dot or puḷḷi is put on the right hand top of the character and not exactly on the top of the character. This method was adopted even in Pūlānkurichy inscription.

It may be of interest to mention here, that the bilingual Sathavahana Coin legend also contains a character with puḷḷi. This coin belongs to 2nd century A.D.

Secondary Vowel Formation:

Puḷḷi is used in the top to signify short forms of 'ekara' and 'Okara'

'ekara' 1. கெ

2. செ

'Okara' 1. கொ

2. சொ

These characters are according to the Tolkạppiyạ Sūtram.

Ekara Okarattiyaṟkaiyum aṟṟe.

This method is seen in earlier Pūlānkurichy inscription also.

These evidences are enough to conclude that 'puḷḷi' might have a very early origin and it may be by the beginning of the Christian era.

Later Periods :

Vaṭṭeḻuttu script lost its dominance by 10th or 11th century in Pāndyanadu. It lost its importance in the Kongu country by 13 century A.D. In South Travancore it was in use for some more centuries with many distortions and was called Malayāḷmā.

In North Travancore and Malabar area it was in use till 18th century A.D. under the name of Kōleḻuttu. The distortions are so much that only with some difficulty we can trace its origin to Cheranattu Vaṭṭeḻuttu.

Due to the influence of Sankrit in Kerala Vaṭṭeḻuttu Script was slowly replaced by the present Malayalam Script. It will be of interest to note that even in the year 1864 A.D., the court language in Travancore was Tamil. It was used in the Huzur treasury, in the Munsiff Court and in Chatur Court. This is mentioned in an article published in the Magazine 'Vidya Sankarakam', published by C.M.S. College Kottayam, in its issue of July 1864.

There is a vast scope for research in this field.

REFERENCES

1. Studies in South Indian Archaelogy, Epigraphy and Architecture and Sculpture—By Dr. T. V. Mahalingam Page 96.
2. Seminar on Inscriptions—Page 57.
3. Travancore Archaeological series No. XVI—Specimens of Vatteluttu Inscriptions—Page 284.
4. Kalvettiyal.
5. Tamil-Brahmi Inscriptions—Iravatham Mahadevan 1970.
6. Indian Express—dated May 22, 1980.
7. Tamil coins A study—Dr. R. Nagaswamy Page 141.
8. Tamil coins A Study—Dr, R. Nagaswamy Page 140.

REFORM OF THE TAMIL SCRIPT

Kodumudi S. SHANMUGAM, M.E., D.S.S., M.I.E.,

In Tamil, there are 5 vowels and 18 consonants and one aytam totalling 24 independent letters in all. Uyir neṭils are the lengthening of their respective kuṟils and the uyirmey letters are the combination of one mey and one uyir.

Does the system of Tamil writing require any modification or radical change? This question is being debated by the users of Tamil all over the world for the past five decades.

Major difficulty is experienced in the making of uyirmey letters. Wherever the procedure is simple and uniform, no serious problem is noticed. For example in the Tamil matrix of letters, the vertical columns of mey, a, ā, e, ē, ai, o, ō etc., have become simple and uniform after the introduction of new forms in the place of ணா ணை றா லை ளை etc.

Ukara and ūkāra columns are the major area that require to be made simple and uniform. The other area calling for simplification now is the uyir. Suggestions to fulfil these requirements are respectively:

1. Ukara and ūkāra uyirmey letters can be made by adding to each main letter, on its right side, a common attached symbol.

2. Uyir neṭils can be made by placing the extension symbol on the right side of the kuṟil letters.

Among the present day typographic methods, typing and printing, besides handwriting, are the more widely used ones. The major advantage in typing is the possibility that it affords for breaking the letter in both horizontal and vertical directions. In printing, breaking the letter in the vertical direction is not normally possible. This creates another problem in the mey

column of Tamil matrix, where the dot at the top of each letter requires independent forms for all the 18 mey letters. If a mey letter, with a dot placed as a degree mark can be accepted 18 forms can be dispensed with. The possibility of breaking the letter in the horizontal direction, in the process of printing, was made use of, in making ikāra and īkāra uyirmey forms, by the Daily, Swathesamitran, long back. This leads to the suggestion of two independent symbols to be placed on the right side of the main letter for simplifying ikāra and īkāra columns.

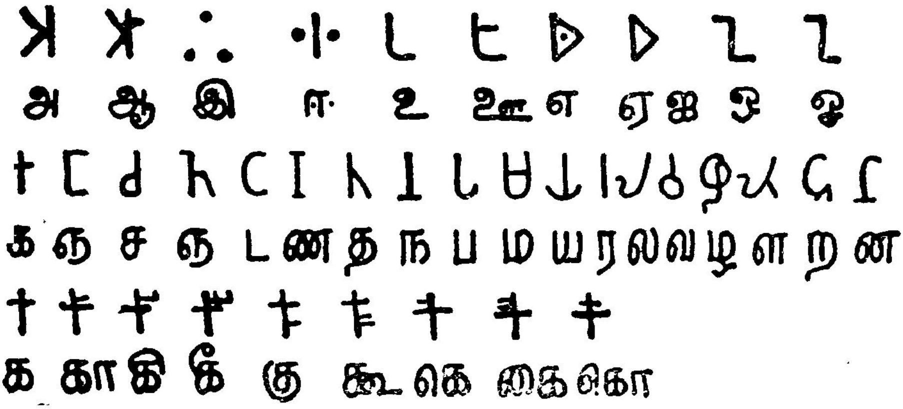


Fig. 1 Ancient Tamil Alphabets

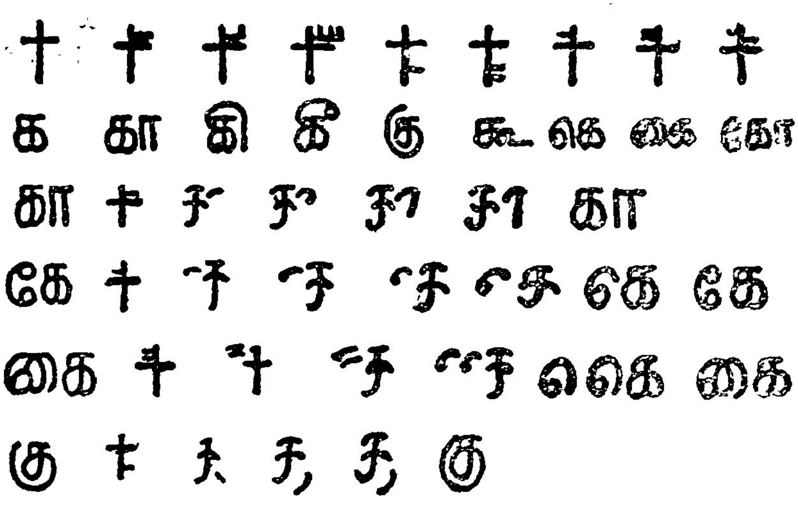


Fig. 2 Evolution of the present forms of Tamil Script

	அ	ஆ	இ	ஈ	உ	ஊ	எ	ஏ	ஒ	ஓ	ஐ	ஔ
க்	க	கா	கி	கீ	கு	கூ	கெ	கே	கொ	கோ	கை	கௌ
ங்	ங				ஙு	ஙூ						
ச்	ச				சு	சூ						
ஞ்	ஞ				ஞு	ஞூ						
ட்	ட		டி	டீ	டு	டூ						
ண்	ண	ணா			ணு	ணூ					ணை	
த்	த				து	தூ						
ந்	ந				நு	நூ						
ப்	ப				பு	பூ						
ம்	ம				மு	மூ						
ய்	ய				யு	யூ						
ர்	ர				ரு	ரூ						
ல்	ல				லு	லூ					லை	
வ்	வ				வு	வூ						
ள்	ள				ளு	ளூ					ளை	
ழ்	ழ				ழு	ழூ						
ற்	ற	றா			று	றூ						
ன்	ன	னா			னு	னூ					னை	

Fig. 3 Matrix of Tamil letters in their modified forms,

If it is decided to place a symbol for the Ukara, ūkāra uyirmey letters, selection of proper symbol is another question. The new symbol should look good for the typing and printing and should be convenient for hand writing.

The symbols already known to the Tamils are ு and ூ as they are used for ஜுரம், ஜூலை. The Government of Kerala has decided to take the above symbols tilting them by 90°, as ு and ூ. In a survey conducted by me, about 80% of the people are found to choose the former grantha symbols for reasons of their familiarity.

The frequency analysis of the Tamil Script demonstrates that the proposed changes for the Uyirmey series of Ukara and Ūkāra columns, will affect the familiarity only by 10% and the changes suggested to the Uyir series, only by 2%. Hence the transition will be smooth and easier.

The symbol ஐ was first replaced with அய் through the Government Order. Later at the request of a few, the former was restored. A discussion is now going on among Tamil Scholars, which centres round the question of elimination of ஐ and the corresponding uyirmey letters. Retention of this series means the addition of only two symbols, ஐ and ை. It is well and good, if scholars decide to drop them and start writing அய், கய், மய், தய், பய், etc., which will be more reasonable. However, the use of ை may occur about 4% in a printed page. Hence, it is better to drop ை at some later stage to reduce confusion during the transition.

The modern means, Teleprinter and computer are built on the working pattern of the typewriter. The key board for bilingual typewriter, Teleprinter and computer are designed and placed before the public for discussion.

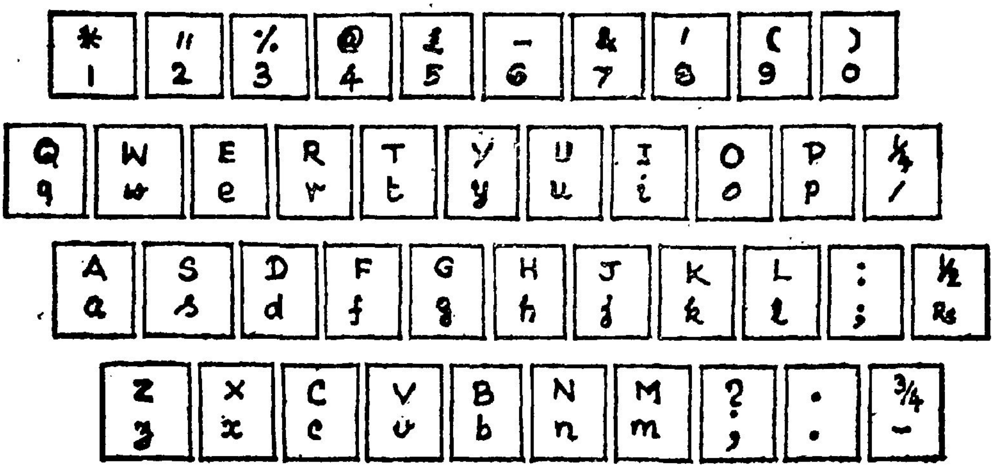


Fig. 4 English Key Board

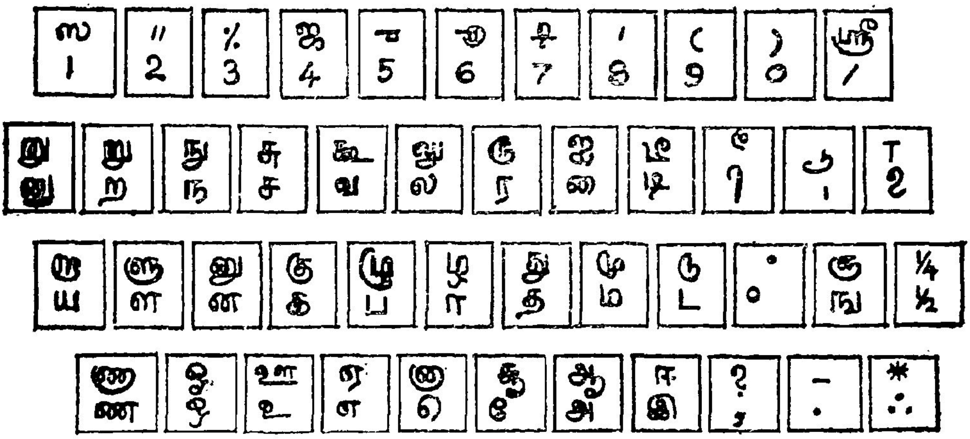


Fig. 5 Standard Tamil Key Board

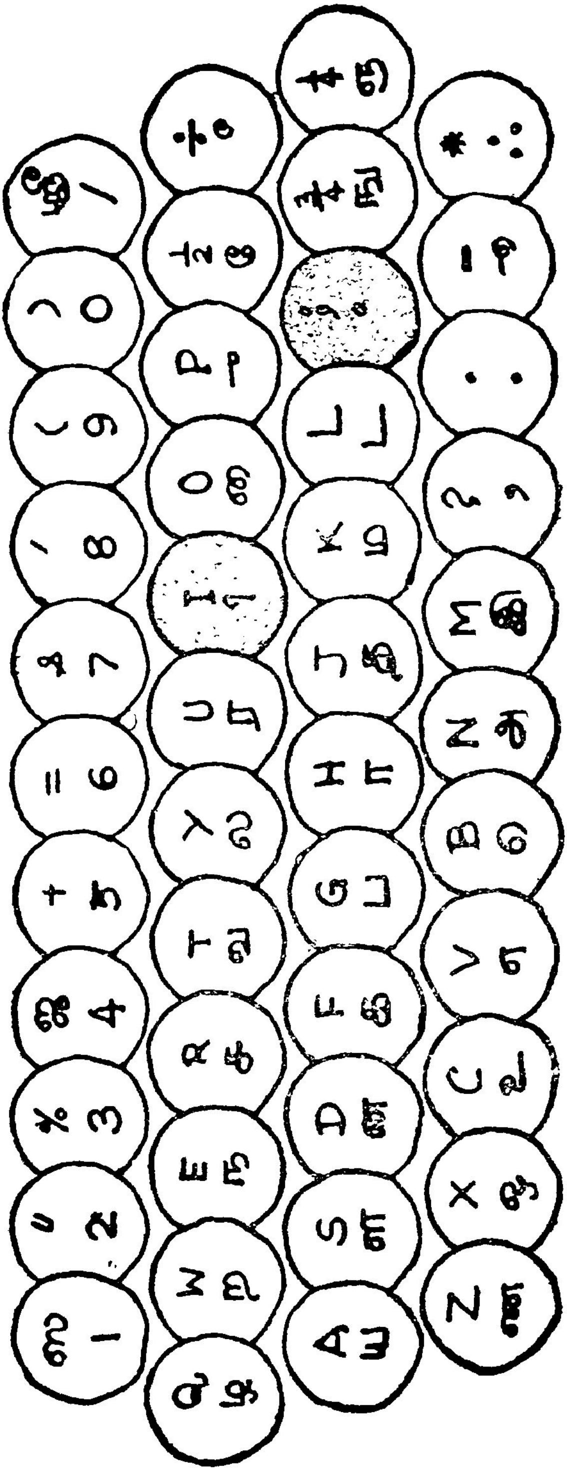


Fig. 6 KONGU BOARD - BILINGUAL

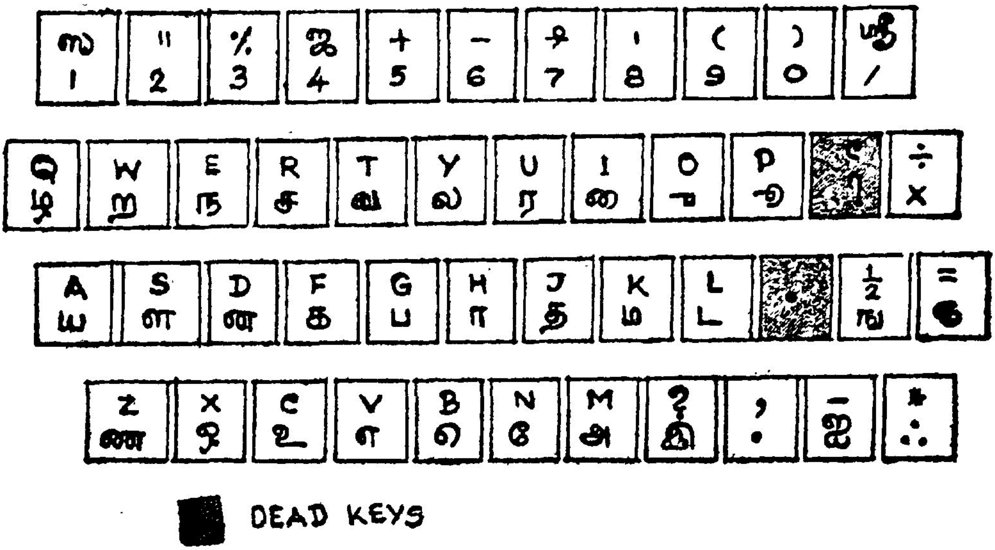
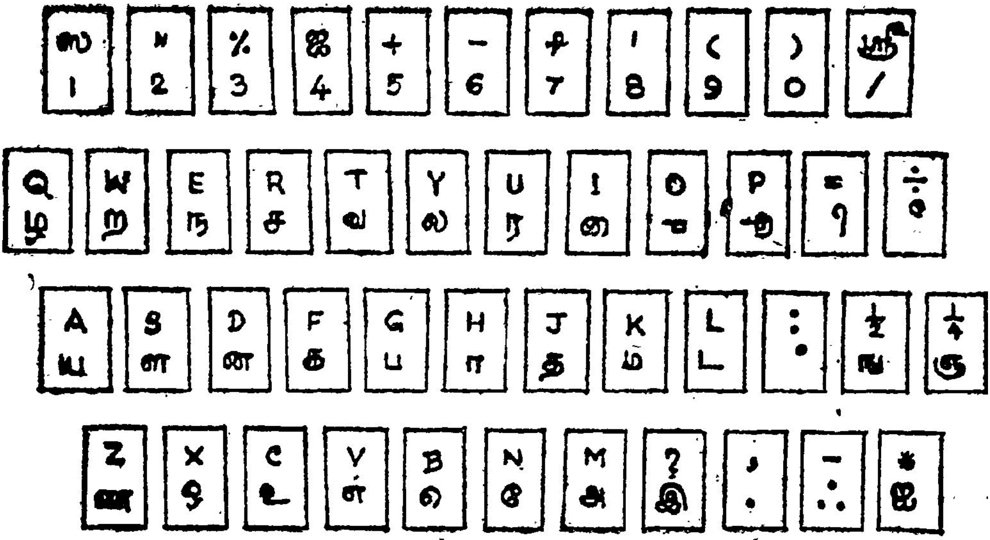


Fig. 7 PERIYAR BOARD - BILINGUAL



F.gi 8 KODUMUDI BOARD - BILINGUAL

Kongu Board is my first bilingual key Board with Tamil and Roman letters devised as early as in 1974. This was modified and named as Periyar Board and later Kodumudi Board. Periyar Board has two keys either dead or with half degree movement. Kodumudi Board dispenses with the above arrangement.

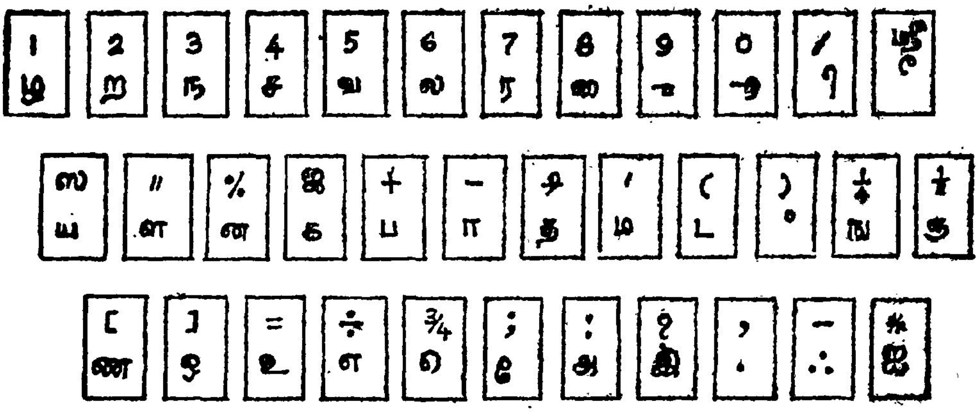


Fig. 9 VALLUVAR TAMIL BOARD

Valluvar Board is exclusively for Tamil with only three rows of keys in place of the four rows in the ordinary type-writers. The Key Board for Telex, Teleprinter and computer are devised on the pattern of Kodumudi Board.

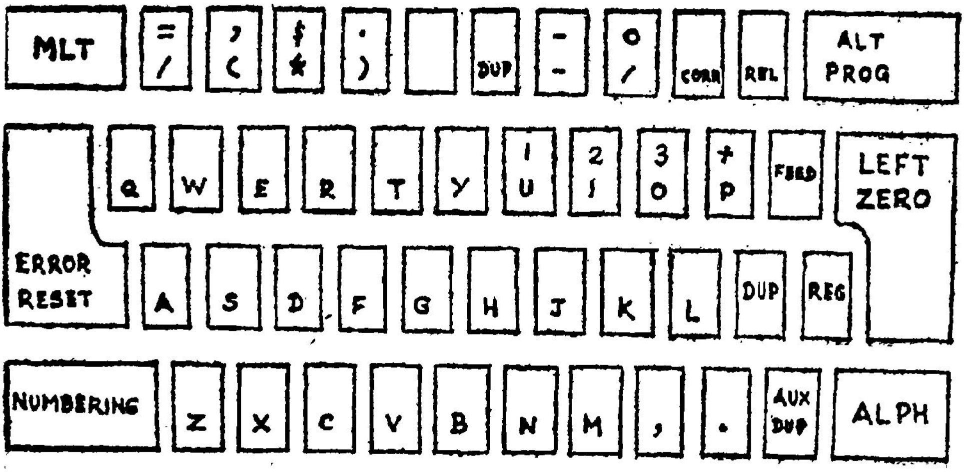


Fig 10 Computer Key Board - English

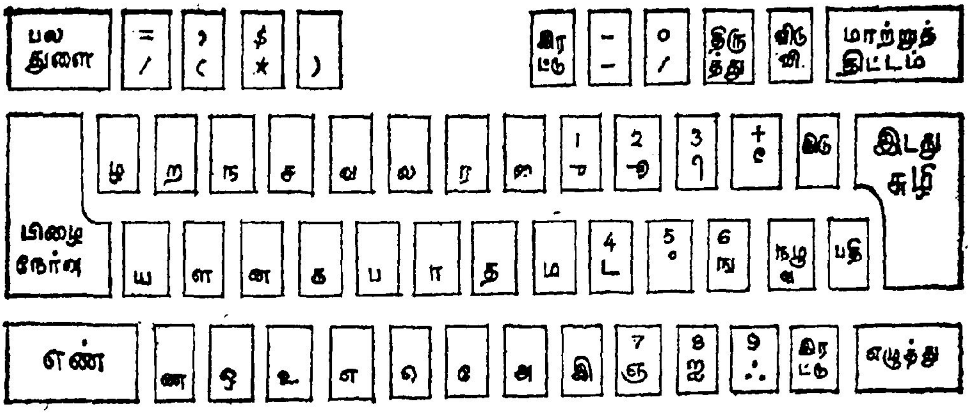


Fig. 11 Computer Key Board - TAMIL

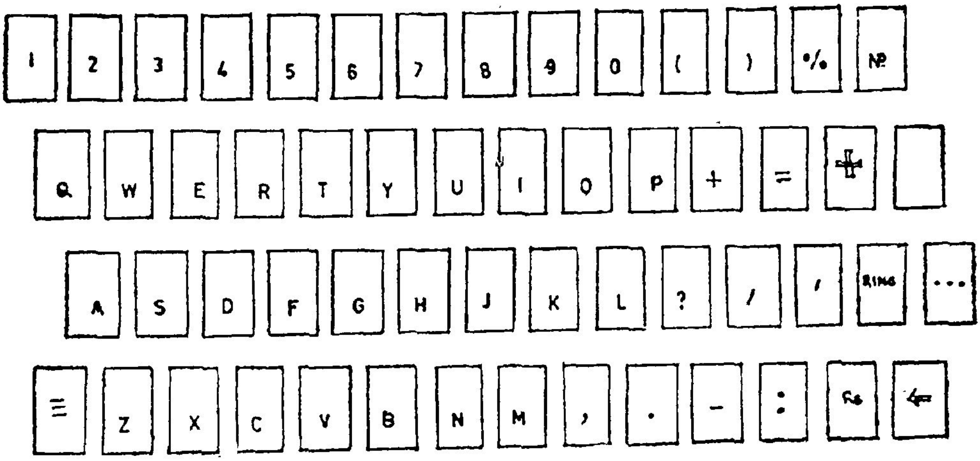


Fig. 12 Teleprinter Key Board - English

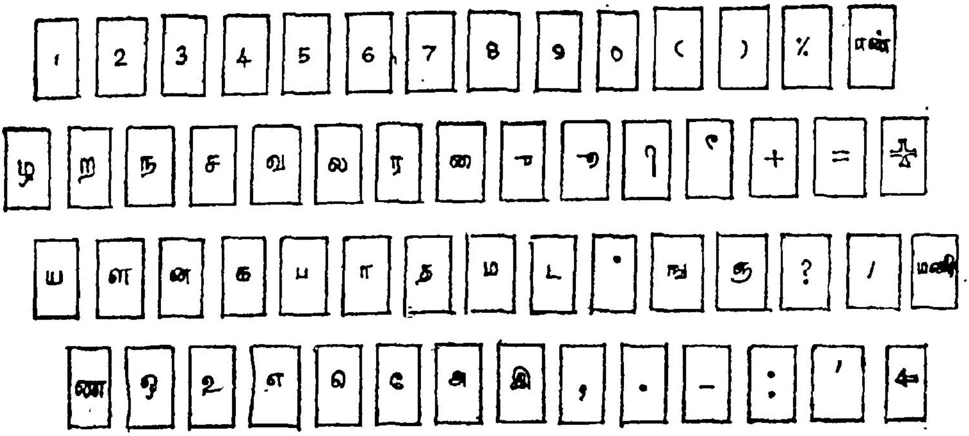


Fig. 13 Teleprinter Key Board - TAMIL

An invitation to suggest modifications has already brought forth innumerable suggestions, of which a few are given below:

1. All uyirmey symbols should come at right side of the basic letter and not at the left as கெ, கே etc.
2. Only two symbols should be there for each uyirmey letter and there should not be three such as கொ, கோ etc.
3. Mey letter should be independent without dot and akara series should take uyirmey symbol. (க, கஅ for க் and க).
4. In the uyir row, one basic letter is sufficient and other letters can take the corresponding uyirmey symbols.

It can very well be seen that other than 18 basic letters and one uyir, all the other letters will look different in a printed page if the above suggestions are given effect to, resulting in the possible maximum confusion during the transition. This amounts to going in for a new system of writing.

Alternatively, the present Tamil letters can be used in a mode similar to that of the use in the Roman Alphabet, placing mey and uyir successively as follows.

ம உ த த உ க க இ ர உ ஷ ண அ ன
M U T T U K K I R U SH N A N

This arrangement takes care of all the suggestions put forth above.

Roman Alphabet also may straightaway be used as an alternate script for the Tamil and other Indian Languages.

New forms for new sounds is another suggestion in this field. All the Indian Languages including Dravidian Languages other than Tamil have adopted varga letters for vallinam. A few feel that similar arrangement may be adopted in Tamil also. Introduction of the above arrangement will make the Tamil language familiar to the non-Tamils whereas it will look absolutely different language to the Tamils.

If it is necessary to introduce new sounds from outside the sound system of Tamil, the particular letter representing the borrowed sound in the source language may be used as it is without modification. This will also help the people to identify the loan words and to coin suitable new Tamil words, in due course.

To conclude, the following forms are sufficient to produce 247 letters of the Tamil matrix.

Uyir	:	அ இ உ எ ஒ
Mey	:	க ச ட த ப ற
		ங ஞ ண ந ம ன
		ய ர ல வ ழ ள

Extra symbols to produce uyirmey. ா, ி, ீ, ு, ூ, ெ, ே.

Symbol for mey : Top Dot
Āytham : ஃ

Prof. GIFT SIROMONEY made the following remarks on the "REFORM OF THE TAMIL SCRIPT":

There is tremendous enthusiasm among some scholars for proposing a number of new schemes for changing the Tamil script according to their individual tastes. Many of them are neither aware of the history of the evolution of the Tamil script nor about the relative frequencies of the individual signs in the modern Tamil prose. These enthusiasts must first of all arm themselves with the information about the distribution of the Tamil signs[1],[2] and about the historical changes that have taken place with reference to the shapes of different letters.[3]

Changes are bound to take place whenever there is a change in the technology of communication. With the advent of the printing press and the typewriter certain changes became necessary. We were adapting typewriters and teleprinters that were manufactured for the use of English language with the Roman script. Further work is going on among computer scientists to find the best possible way of adapting the Tamil script to be used with the computer. Work is also going on as to whether Tamil characters can be recognized by the computer.[4]

Compared to many other Indian languages Tamil is the most efficient language for communication.[5] However, it is a great pity that telegrams in Tamil are not normally accepted or sent by the posts and telegraphs department and even a popular government like the Tamil Nadu government is not able to extend this facility to the common man. Telegrams are received in English and a literate person in Tamil Nadu who knows only Tamil is reduced to the state of an illiterate.

A number of proposals have been made to reduce the already existing signs in Tamil to help the foreign scholars and

little children and some others. The number of signs in Tamil is much smaller than those in other Indian languages. Tamil also has the Puḷḷi system by which letters are written one next to the other and double letters which occur one below the other do not exist in Tamil.

Some others have proposed that new signs must be introduced to allow for the unambiguous representation of sounds like Z, B, G and F which occur in foreign words. During the earlier periods like the period of Rājarāja Choḷa, Sanskrit words in Tamil inscriptions were written in the Grantha script which was used then in Tamilnad to write Sanskrit. The Grantha script was not used in North India. The problem of foreign words is not peculiar to Tamil alone. Even in English the Roman script is not adequate to represent foreign words. The Tamil name for plantain is a good example.

The Roman script used for writing English is certainly not a phonetic script. For instance the signs for A, E, I, and O represent more than one sound each depending upon the context. The following words illustrate this fact: c*a*t, g*a*te; m*e*t, m*e*te; k*i*t, k*i*te; p*o*t, p*o*st, *wrote*. We can pick out the consonantal signs C, S and T. They represent more than one sound and we give a few illustrations: *c*ake, pri*c*e; *s*it, se*ss*ion; *t*op, cau*t*ion; Linguists point out many more examples and discuss many other sounds used in spoken English which are used by the native speakers in Britain and America but not by speakers of Indian English.

The reformers of the Tamil script must also take into account the fact that the old books will continue to exist for many more years to come. Any literate person must be able to read the old books and should know all the old signs. The *Viduthalai* style of reform that has been introduced also has shortcomings and those should not be easily dismissed. For purposes of typing and teleprinting it is quite reasonable but

to compel children to learn Tamil that way is a different matter.

If reducing the number of symbols is the only factor in the construction of a typewriter keyboard one can easily build up letters from basic signs such as straight vertical lines, horizontal lines and curved lines of limited shapes. Then a number of typewriter strokes will be necessary to type a single character. Instead of having single strokes for the letters like *naa* and *nai* we have to type two keys to get a single letter. It takes more time and takes up more space. The amount of paper that can be saved by retaining the old system is not insignificant.

The ancient Vaṭṭeḷuttu script of Tamilnad was given up in Tamilnad and it lived for a few centuries more in Kerala and disappeared. One of the causes for its disappearance was that in handwritten Vaṭṭeḷuttu many signs looked alike and there was a lot of confusion between different signs. In the *Viduthalai* Tamil script there are a number of combinations of letters which are difficult to distinguish from one another when written by hand. The forms for *naa* and *nai* reached the stage of separate signs after many centuries of evolution so that there was less confusion between different letters. Distinguishability between letters and combinations of letters is a very important criterion in any script. This criterion has been sadly neglected in the *Viduthalai* script which is harmless when found in the newspaper but is harmful when it is compulsorily taught to children in school.

Overenthusiasm of many individuals to introduce their own brand of Tamil script on the Tamil people should be viewed with caution. Let the newspapers experiment with different reforms but let the school children be left alone. I hope I have demonstrated that the subject is closely connected with the sentiment of the people and the common man does not want any government to meddle with his script.[6] However, the governments are powerful and it is difficult to check the damage.

REFERENCE

1. Gift Siromoney, "Entropy of Tamil Prose", *Information and Control*, Vol. 4, pp. 297-300, (1963).

2. Gift Siromoney, "Efficient methods of telegraphy, typewriting and teleprinting in Tamil", *Tamil Culture*, Vol. 10, pp. 107-120, (1963).

3. Gift Siromoney, S. Govindaraju and M. Chandrasekaran, *Kalveṭṭu Ezhuthukkaḷil Tirukkuṟaḷ*, Madras Christian College, Madras, 1980.

4. Gift Siromoney, R. Chandrasekaran and M. Chandrasekaran, "Computer recognition of printed Tamil characters", *Pattern Recognition*, Vol. 10, pp 243-247, (1978).

5 B. S. Ramakrishna, K. K. Nair, V. N. Chiplunkar, B. S. Atal, V. Ramachandran and R. Subramanian, *Some aspects of the Relative Efficiencies of Indian Languages*, Indian Institute of Science, Bangalore, 1962.

6. S. Bala and Gift Siromoney, "Public opinion survey on Prohibition, Tamil script reform and declaration of emergency", *Madras Christian College Magazine*, Vol. 48, pp. 16-17, (1979).

REFORM OF TAMIL SCRIPT

S. RAMARATNASABAPATHY

A great spurt in the development of languages in Europe started after the advent of paper and printing in the 15th century. The languages like English having easy and few alphabets less than 30 letters made a tremendous advance in all the fields of learning. The language instead of remaining the preserve of the scholarly few reached the masses who could also read and write.

Any language which is too numerous in Alphabets, too elaborate in structure and too complex in form cannot thrive. Only the language which is simple, swift and lucid can prosper.

On comparing with Devanagari Script, Tamil Script is simple and brief, even though the Tamil Script is more complex and more numerous than the Roman Script. Any language having numerous and elaborate sounds, correspondingly many letters, becomes intricate and leave away from the masses to become the language of Scholars. Further it may languish.

Presently 70 per cent of Tamil people just talk or prattle, 25 per cent are literate and 5 per cent attain the level of scholars. When the Tamil Script is reformed and made easy and brief so that 80 per cent of Tamils can read and write, then only Tamil will flourish. What the masses think and talk, they should also be able to write.

The Tamil script is simple having 12 vowels and 18 consonants but was made complicated while deriving 216 consonant-vowels by attaching symbols to the body of the consonants. Further the symbols are added on all the four sides of the consonants.

As the Tamil writing flows from Left to Right and climb down from top to bottom, placing detached symbols on the right side of the consonants can make the script easy and help to sustain a few letters.

அ ஆ இ ஈ உ ஊ எ ஏ ஐ ஒ ஓ ஔ

On looking at the Tamil vowels it can be easily understood that the first vowel has the basic form and other 11 vowels are derived from the shape of the first vowel by attaching symbols in the body of the first vowel with some distortion. The chuḷi, small circle is present in all the vowels. It is not an illusion that the letter long I ஈ was also derived from the first vowel.

Now, all vowels are distorted derivatives of the first vowel. In one step forward all the vowels can be obtained as undistorted derivatives of the first vowel by placing the necessary detached symbols on the right side of the First vowel instead of the prevailing attached symbols.

மெய்	ஆ	இ	உ	எ	ஒ
Consonant	Long sound	i	u	e	o
	o	|	-	=	+

. o | - = + The dot, small circle, vertical dash, dash, parallel lines and the plus sign are the symbols. The dot represents the consonants and the tool letter. The small circle represents long sound and | - = + represent the short vowel sounds i u e o respectively. The symbols are to be placed on the right side of any letter. The letters and symbols should not touch each other. The vowels can be written as follows :-

அ	ஆ	இ	ஈ	உ	ஊ	எ	ஏ	ஐ	ஒ	ஓ	ஔ
a	aa	i	ii	u	uu	e	ee	ay	o	oo	av
அ	அ°	அ|	அ|°	அ-	அ-°	அ=	அ=°	அய·	அ+	அ+°	அவ·

The vowels are written as undistorted derivatives of the first vowel.

ஐ ay and ஔ av which are not long sounds of any related vowels are clusters and they ought to be written as அய· and அவ· respectively. The tool letter ah ஃ is derived by placing a dot at the centre of the right side of the first vowel அ·.

Consonants

க் ங் ச் ஞ் ட் ண் த் ந் ப் ம் ய் ர் ல் வ் ழ் ள் ற் ன்
க ங ச ஞ ட ண த ந ப ம ய ர ல வ ழ ள ற ன

For the eighteen consonants the dot is shifted from top of the letters to their right side.

Consonant - a

க ங ச ஞ ட ண த ந ப ம ய ர ல வ ழ ள ற ன

The eighteen consonant-First vowels retain their original form and become basis for other 198 consonant-vowels. The other 198 consonant-vowels are the undistorted derivatives of the 18 consonant-first vowel with an annex of vowel symbol on the right side upper half.

Long consonant - a

கா ஙா சா ஞா டா ணா தா நா பா மா யா ரா லா வா ழா ளா றா னா
க° ங° ச° ஞ° ட° ண° த° ந° ப° ம° ய° ர° ல° வ° ழ° ள° ற° ன°

The long sound of any consonant-first vowel is derived by putting the chuḷi 'o' on the right side upper half of the related consonant-first vowel. Here the old symbol ா is replaced by o. The new symbol o is found in making the first vowel into long sound. o is simpler than ா. Chuḷi o indicates long sounds of all vowels and consonant-vowels. But ா indicates long sound of consonant-first vowels and long and short sound of any consonant-o and some long consonant u. Further symbol ா creates confusion with letter ர.

Consonant - i

கி ஙி சி ஞி டி ணி தி நி பி மி யி ரி லி வி ழி ளி றி னி
க/ ங/ ச/ ஞ/ ட/ ண/ த/ ந/ ப/ ம/ ய/ ர/ ல/ வ/ ழ/ ள/ ற/ ன/

Any consonant-I is obtained by placing the I symbol on the right upper half of the corresponding consonant-first vowel.

Long consonant - i

கீ ஙீ சீ ஞீ டீ ணீ தீ நீ பீ மீ யீ ரீ லீ வீ ழீ ளீ றீ னீ

க/° ங/° ச/° ஞ/° ட/° ண/° த/° ந/° ப/° ம/° ய/° ர/° ல/° வ/° ழ/° ள/° ற/° ன/°

Any long sound of consonant - I is obtained by placing a chuḷi o on the right side of the corresponding consonant - I.

Consonant - u

கு ஙு சு ஞு டு ணு து நு பு

க¯ ங¯ ச¯ ஞ¯ ட¯ ண¯ த¯ ந¯ ப¯

மு யு ரு லு வு ழு ளு று னு

ம¯ ய¯ ர¯ ல¯ வ¯ ழ¯ ள¯ ற¯ ன¯

Any consonant - u is derived by putting the u symbol on the right upper half of the corresponding consonant - first vowel. The existing consonant - u have funny complicated forms by incorporating four different symbols.

Long consonant - u

கூ ஙூ சூ ஞூ டூ ணூ தூ நூ பூ

க¯° ங¯° ச¯° ஞ¯° ட¯° ண¯° த¯° ந¯° ப¯°

மூ யூ ரூ லூ வூ ழூ ளூ றூ னூ

ம¯° ய¯° ர¯° ல¯° வ¯° ழ¯° ள¯° ற¯° ன¯°

Any long sound of consonant - u is written by addition of long sound symbol on the right side of the related consonant u. The existing long sound of consonant u is more complicated by addition of chuḷi o kāl ா at the end of the existing consonant u.

Consonant - e

கெ ஙெ செ ஞெ டெ ணெ தெ நெ பெ

க= ங= ச= ஞ= ட= ண= த= ந= ப=

மெ யெ ரெ லெ வெ ழெ ளெ றெ னெ

ம= ய= ர= ல= வ= ழ= ள= ற= ன=

Any consonant - e is derived by putting e symbol on the right upper half of the corresponding consonant - first vowel.

Here = symbol is simpler and more lucid than ெ, comes exclusively for all e sounds. But ெ symbol is found in all consonant-e, o, and Av and faces the back of any letter.

Long consonant-e

கே ஙே சே ஞே டே ணே தே நே பே
க=° ங=° ச=° ஞ=° ட=₀ ண=° த=° ந=° ப=°
மே யே ரே லே வே ழே ளே றே னே
ம=° ய=° ர=° ல=° வ=° ழ=° ள=° ற=° ன=°

Any long consonant-e is obtained by putting long vowel symbol on the right side of the related consonant-e.

Consonant ay

கை ஙை சை ஞை டை ணை தை நை பை
கய ஙய சய ஞய டய ணய தய நய பய
மை யை ரை லை வை ழை ளை றை னை
மய யய ரய லய வய ழய ளய றய னய

All consonant-Ays are obtained by addition of the consonant ய on the right side of the corresponding consonant-first vowel.

Consonant o

கொ ஙொ சொ ஞொ டொ ணொ தொ நொ பொ
க+ ங+ ச+ ஞ+ ட+ ண+ த+ ந+ ப+
மொ யொ ரொ லொ வொ ழொ ளொ றொ னொ
ம+ ய+ ர+ ல+ வ+ ழ+ ள+ ற+ ன+

Any consonant-o is derived by putting the + sign on the right upper half of corresponding consonant-first vowel.

Long consonant o

கோ ஙோ சோ ஞோ டோ ணோ தோ நோ போ
க+° ங+° ச+° ஞ+° ட+° ண+° த+° ந+° ப+°
மோ யோ ரோ லோ வோ ழோ ளோ றோ னோ
ம+° ய+° ர+° ல+° வ+° ழ+° ள+° ற+° ன+°

Any long consonant-o is obtained by placing the long sound symbol on the right side of the related consonant-o.

Consonant av

கௌ ஙௌ சௌ ஞௌ டௌ ணௌ தௌ நௌ பௌ
கவ ஙவ சவ ஞவ டவ ணவ தவ நவ பவ

மௌ யௌ ரௌ லௌ வௌ ழௌ ளௌ றௌ னௌ
மவ யவ ரவ லவ வவ ழவ ளவ றவ னவ

All consonant-av are formed by adding the consonant வ on the right side of the corresponding consonant-first vowels.

Tamil letters for foreign sounds

H	G, J	S	SH CH ZH Tio	KSH, KCH	X	F
ஹ	ஜ	ஸ	ஷ	க்ஷ		
அ.	ய.	ச	ச.	க.		ப.

The letters for the above mentioned foreign sounds are obtained by putting a dot at the right centre of related Tamil letters. This dot comes just below any vowel symbols that may come since all symbols are shorter than half the height of letters.

Here tool letter represents H as the tool letter is already having the sound of H.

The right lower half of letter is free for any future innovation.

Dimension of letters and symbols

All Tamil letters are to have the same height. Except ண other Tamil letters are to have same width. Excluding ண other Tamil letters are to have height width ratio as 2 to 3. The letter ண is to have height width ratio as 2 to 4. The letter 2ட 3 is the measuring rod . ° - dot, circle and dash are the exclusive easy and basic sombols. The dot is as thick as any line in formation of letters. The sizes of o and - are less than half the height of the letter. Any line or stroke is formed by dots and dot is the basic form of writing.

The chuḷi ° represents long sound of vowels. In the existing letters chuḷi ° indicates the long vowels a and o long consonant - ḷ and some long consonant - u and chuḷi is present in all Tamil vowels.

– the dash stands to depict I, lies to indicate U, splits and forms a parallel to indicate e, and finally splits and forms criss-cross to depict o.

. o – the three basic sombols dot, circle and dash multiply to 6 symbols as . ₒ | – = + for usage in Tamil. These symbols further multiply as

ₒ | |ₒ - -ₒ = =ₒ + +ₒ

It is a pleasant [surprise] all the six symbols . ₒ | – = + are found incorporated in the body of First vowel 'அ'

Writing Tamil in Roman Script

ஒலையில்	எழுதுவது	அரிது
Oolyil	eludhuvadhu	aridhu
தாளில்	வரைதல்	எளிதே
Thaaḷil	varydhal	elidhae

அ	இ	உ	எ	ஒ
a	i	u	e	o

க	ங	ச	ஞ	டண	தநப	ம	ய	ர	ல	வ	ழ	ள	ற	ன
k	ng	s ch	gn	d	th dh B p	m	y	r	l	v				

The English vowels of Roman script change their sound from word to word and vowel - sounds depend upon the word. Two or three vowels give the same sound in many positions. All five Tamil vowels are having distinct sounds but for becoming either short sound or long sound. Due to climatic and geographical difference the vowel sounds and consonant sounds uttered by Europeans differ from those sounds uttered by the Tamils. There are not exact equivalent letters for Tamil letters. Letters ண, ழ, ள, ற, ன are missing in Roman Scripts and ங,

[illegible], ஞ, ந are to be written in two Roman letters. So adoption of Roman script will change Tamil into some other new language. In any script letter and sound are like flower and fragrance. So script of one language cannot be replaced by the script of some other language. Any language having no script of its own can only accept a new script.

Writing Tamil in English Way

கஅ கஆ கஇ கஈ கஉ கஊ கஎ கஏ கஐ கஒ கஓ கஔ
ஓர் உயிரே, பதினெண் மெய்யே, ஆறு குறியே
ஓர உயஇரஏ, பஅதஇனஎன மஎயயஏ, ஆறஉ கஉறஇயஏ
அ+ ர அ¯ய/ ர=°, பத/ண= ண ம= ய ய=• அ• ற¯க¯ற/ ய=°

The writing Tamil in English way is possible with 30 letters of the present vowel and 18 consonants. Here predominantly used 18 consonant-first vowels are also written with two letters like other 198 consonant - vowels. So the writing will enlarge by 1.6 times. Upto 1835 AD the natives were prohibited from printing as per Act of Government by the British. In such circumstance we have to visualize with mixed feelings how the European missionary Tamil scholars missed the opportunity either adopting the English way of writing Tamil alphabets or reforming Tamil Script when they introduced innovation in printing for Tamil language.

People should be able to write what they think and talk. So the Script should be simple, brief and lucid. Unless 80% of people are able to read and write, the language cannot flourish.

The chunk of the present 25 per cent literate and 5 per cent scholars may wonder how masses cannot write the present script if they take some pain. They redicule any simplest reform saying it will make all the educated also illiterate.

The devoted Tamil scholars may challenge how we are going to throw all printed Tamil books in the Bay of Bengal. They forget to remember how all ancient writing decaying in

Palmyrah Eedus were collected serialised and published as books by great forerunners like Dr. U. V. Swaminathan, Thiru Damotharan and others against tremendous odds. When the reformed script is accepted, all Tamil books in the old script should be reprinted in the new script at the heavy price of several crores of rupees if Tamil people are adventurous and forward looking. This is a very small price to pay in order to educate vast mass of Tamils and consequent entailing the fertile growth of Tamil and blossoming of Tamil. Any language is not to be like gold but language should be like water so that the masses can freely handle it in writing.

The script reform can also be used to simplify other Indian language scripts such as Devanagari, Malayalam, Telugu Bengali etc.

தமிழ்வரிக்குச் செம்மாறு

அ ° ' ¯ = + ·
க ங ச ஞ ட ண த ந ப ம ய ர ல வ ழ ள ற ன

° நெடில்குறி. — ஐ → அய், ஔ → அவ்
' இகரக்குறி — ஃ → அ ,
¯ உகரக்குறி. — த் → த ; ர → ர
= ஊகரக்குறி. — ழு → ழ ; ற →
+ ஒகரக்குறி. — 25 வடிவே, 247 ஒலியே
· மெய் ஆய்தக்குறி.

அ ஆ இ ஈ உ ஊ எ ஏ ஐ ஒ ஓ ஔ ஃ
அ அ° அ' அ'° அ¯ அ¯° அ= அ=° அய்அ+ அ+° அவ் அ·
க க° க' க'° க¯ க¯° க= க=° கய்க+ க+° கவ் க·
ங ங° ங' ங'° ங¯ ங¯° ங= ங=° ஙய்ங+ ங+° ஙவ் ங·
ச ச° ச' ச'° ச¯ ச¯° ச= ச=° சய்ச+ ச+° சவ் ச·
ஞ ஞ° ஞ' ஞ'° ஞ¯ ஞ¯° ஞ= ஞ=° ஞய்ஞ+ ஞ+° ஞவ் ஞ·
ட ட° ட' ட'° ட¯ ட¯° ட= ட=° டய்ட+ ட+° டவ் ட·
ண ண° ண' ண'° ண¯ ண¯° ண= ண=° ணய்ண+ ண+° ணவ் ண·
த த° த' த'° த¯ த¯° த= த=° தய்த+ த+° தவ் த·
ந ந° ந' ந'° ந¯ ந¯° ந= ந=° நய்ந+ ந+° நவ் ந·
ப ப° ப' ப'° ப¯ ப¯° ப= ப=° பய்ப+ ப+° பவ் ப·
ம ம° ம' ம'° ம¯ ம¯° ம= ம=° மய்ம+ ம+° மவ் ம·
ய ய° ய' ய'° ய¯ ய¯° ய= ய=° யய்ய+ ய+° யவ் ய·
ர ர° ர' ர'° ர¯ ர¯° ர= ர=° ரய்ர+ ர+° ரவ் ர·
ல ல° ல' ல'° ல¯ ல¯° ல= ல=° லய்ல+ ல+° லவ் ல·
வ வ° வ' வ'° வ¯ வ¯° வ= வ=° வய்வ+ வ+° வவ் வ·
ழ ழ° ழ' ழ'° ழ¯ ழ¯° ழ= ழ=° ழய்ழ+ ழ+° ழவ் ழ·
ள ள° ள' ள'° ள¯ ள¯° ள= ள=° ளய்ள+ ள+° ளவ் ள·
ற ற° ற' ற'° ற¯ ற¯° ற= ற=° றய்ற+ ற+° றவ் ற·
ன ன° ன' ன'° ன¯ ன¯° ன= ன=° னய்ன+ ன+° னவ் ன·

OBSERVATIONS ON THE PAPERS OF S. RAMARATNASABAPATHY AND KODUMUDI SHANMUGAM

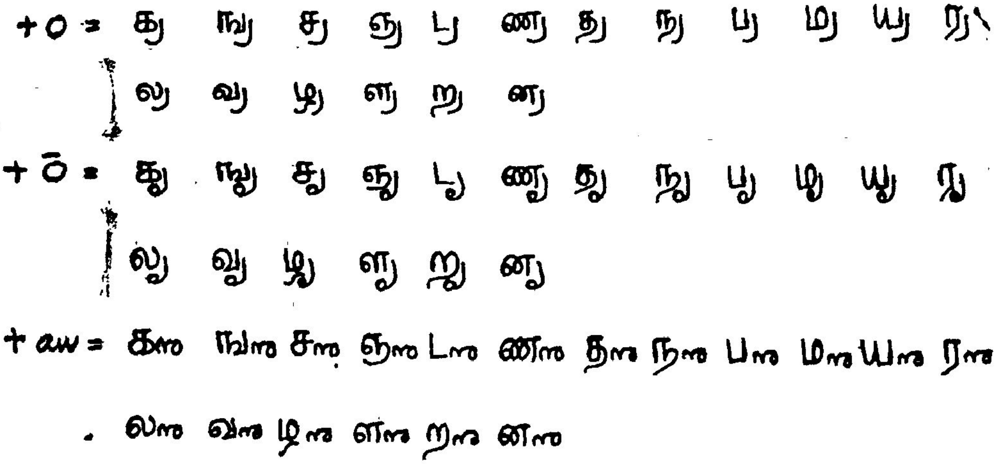
P. SHANMUGAM

The basic idea behind the reform movement of the Tamil script is to write the whole Tamil alphabets with a lesser number of symbols. It must be easy to print and type. However this basic idea is forgotten by some of the scholars who would suggest an entirely new form of symbols that are difficult to follow. S. Ramaratnasabapathy has suggested vowel forms with the basic single letter *a* (அ), the other twelve letters are formed by the addition of symbols like 0, –, =, +. For the medials also he has adopted the mathematical signs. Kondal S. Mahadevan adopting a peculiar analogy converted a few of the existing letters by changing their lateral position. He would also suggest the change of the one letter vowel *ai* (ஐ) to two lettered vowel (அய்). These suggestions are difficult to follow since they create more problems and are complicated and difficult to follow. It must be borne in mind that the reform in Tamil script should be for the betterment of the language and for easy understanding and the reform should be effected without further complicating the script.

In this respect Kodumudi Shanmugam has given a very good suggestion. Instead of complicating things he has reduced the burden of the printer and the writer. Hence his suggestion for the adoption of the medial sign for *u* and ū may be considered. However Kodumudi Shanmugam and others have missed one aspect of the Tamil alphabet. They have not considered the vowels *o*, ō and *au*. Medial signs for these three vowels are the maximum in the Tamil script. With the basic letter two medial signs have to be added on either side of the letter to form a consonant (eg: கொ, கோ and கௌ). While writing these letters there seems to be no difficulty at all. For composing these letters for printing, a person has to pick the letters three times, which may be considered as

wasteful and time consuming. In case of the typewriter also one has to operate three different keys. This involves waste of energy and delay in printing. If the difficulty is reduced to the minimum, some amount of speed can be achieved in composing and printing.

In this respect I would suggest the use of only one symbol with the basic letter to represent a vowel. Three new signs (ு, ூ, ள) for denoting *o*, ō and *au* medials respectively are suggested. In the Grantha script these three symbols are used and they are unknown to Tamil script. They may be adopted for the Tamil script without much difficulty. These symbols may be placed following the basic letters to form consonants (eg: Ko = கு; Kō = கூ; Kau = கள). In adopting these symbols the Tamil alphabet would have some sort of uniformity in the use of medial signs. After the addition of these symbols the consonants would appear as follows:



62